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A FEW years ago the attention of the religious community of America was called to a new biographical account of Christ, which had been published in England, and won the highest encomiums of the reading public. It was pronounced by critics to be the best Life of Christ which had been produced in the past quarter of a century, and its very general welcome gave to the author, the Rev. Frederick W. Farrar, D.D., of London, a high place in the world's literature. Previous to the appearance of this important work, Dr. Farrar's name was but little known in this country

outside of the comparatively small circle of readers and students of doctrinal theology.

Of his phrenological characteristics, Prof. L. N. Fowler writes from London as follows:

CANON FARRAR is well-balanced, mentally and physically. Although his mental temperament is strongly marked, yet it is sustained by a good proportion of bone, muscle, and blood; and his temperamental organization as a whole is more complete and better balanced than that of most men. He could work equally well with brain or body. His brain in cubic inches is above that of the average. This, with his culture and quality of organization, give him an advantage over many in clearness and power of mental action.

His head is broad between the ears, hence he has energy, executiveness, love of industry, and resolution. While these powers are subordinate to reason and moral sense, they aid in giving force to his reasoning and strength to his moral purposes.

The prudential qualities, located above the executive, are strongly marked, and these have a powerful influence in regulating his impulses and executive faculties; hence he acts and speaks with great energy and spirit, yet within bounds, and is not so liable to overdo or break down as many who yield to their unrestrained impulses. His head is high in the crown, and he has ambition, sense of character, the desire to excel and to be favorably known. His ambition acts with his strongest faculties, which are the reasoning and moral faculties, and these dominate over all the other powers of his mind.

His Self-esteem is large enough to give him general pride and manliness, and to enable him, if necessary, to take responsibilities and rely on himself, but his reasoning and moral faculties are too strong to allow him to be egotistical, dictatorial, or tyrannical.

His frontal lobe is full, high, and broad, and is particularly large in the upper portion embracing the reasoning, intuitive powers; hence he is more of a thinker than an observer, and has more of a philosophical than a scientific, practical, or experimental cast of mind. He observes when he has an object in view and goes on purpose to see and gain information; but he thinks without intending to do so or being conscious of it. He collects facts and statistics more easily by reading than by observation, and for use rather than for the mere sake of acquiring them. He employs facts to illustrate principles rather than to entertain company.

His intellect works from the superior to the inferior. He starts from the pinnacle and works downward. His Comparison is particularly large, and gives him great power to become acquainted with results, effects, and the application of principles. It enables him to illustrate, compare, contrast, explain, reduce to practice, and make available what knowledge he gains. It enables him to present his ideas in a clear and practical form, and joined with his very large Intuition, aids him in making nice distinctions between the true and the false. He has very great intuitive power and perception of character, human nature, and truth. He has also ingenuity, versatility of talent, power to arrange and systematize his ideas and plans and he can do many different things equally well. The faculty of Language is not large and he is not loquacious. He talks because he has something to say, rather than for the sake of talking; yet having a clear, active mind and an open disposition, he talks with freedom and ease; yet he can write better than talk. His eloquence is not so much the result of large Language as it is of his great learning, scope of mind,

emotional nature, and warm, earnest temperament.

His tone of mind and body, joined to his large Sublimity, Ideality, and Mirthfulness, give scope to his imagination, brilliancy to his thoughts, and liberality to his mental operations.

Owing to the activity of his brain, even the smaller faculties are quite vigorously manifested when he is animated. But the crowning powers of his mind, that have a controlling and guiding influence in action, are connected with his coronal brain. His head is unusually high and broad in the coronal region, and it is also particularly high above the ears. Firmness being very large, he has a strong, determined spirit, ability to make up his mind, to decide upon a course of action, to adhere to his purposes and plans, to persevere in his undertakings, as well as to resist foreign influences and to maintain his position.

His large moral brain gives him a consciousness of his manhood, his importance and value as a moral being, and disposes him to place a high value on human nature. All his moral organs are fully represented. They give tone and strength to his character, a distinct sense of moral obligation, uprightness of mind, strong hopes, consciousness of the future, the spirit of enterprise, strong faith, sentiment, emotion, pathos, a high regard for the superior and sacred.

The largest of all his moral organs is Benevolence, which has almost a monopolizing influence in his character, conduct, and mode of reasoning. The sympathetic portion of Benevolence is particularly strong. He easily becomes interested in other people and in all those agencies that tend to relieve human suffering, increase happiness, and elevate the race. It makes him liberal and tolerant, but he is also positive and distinct in his ideas and opinions, through the influence of his large Conscientiousness.

In summing up the most prominent powers of his organization, I would say he has a strong constitution, good stock and quality of bodily powers, a quick circulation, giving warmth and ardor; a high-toned mental temperament, giving clearness and distinctness of mental action; great energy and ambition, vivid imagination and scope of mind, a clear, descriptive, analogical, intuitive, penetrating intellect, and more than average moral power, sympathy, and goodwill toward mankind.

FREDERICK WILLIAM FARRAR was born in the Fort of Bombay, in 1831; his father being then a missionary of the Church Missionary Society, and since for many years Rector of Sidcup, in Kent, England. While very young Frederick was sent to the school at Castleton, Isle of Man. His experiences there supplied the foundation of "Eric, or Little by Little," the first of his very interesting tales for school-boys. At sixteen he was entered at King's College, London, where he remained three years, taking a high position for scholarship. In the fall of 1851 he went to Trinity College, Cambridge, and became a foundation scholar in the following year. There his talents were signally exhibited, his excellence in the mathematical department being specially marked. Taking his bachelor's degree in 1854, he at once went into the world of scholastic life as a teacher, accepting an appointment as Assistant-master of Marlborough College. In 1855 he was appointed by Dr. Vaughan Assistant-master at Harrow, where he labored fifteen years, and most successfully, wielding an influence over his pupils which is rarely seen in the walks of even English pedagogic life.

Mr. Farrar had been ordained a deacon of the Anglican Church in 1854, and priest in 1857, and while at Harrow he performed the duties of an English clergyman. He appears to have won attention as a pulpit orator quite early, while his talents and

scholarship gave him prominence among educators. He became a Fellow of the Royal Society in 1864, University preacher in 1868, honorary Chaplain to the Queen in 1869, and Hulsean lecturer in 1870. The following year he was appointed Head-master of Marlborough College. Dr. Butler, Head-master of Harrow School, wrote of him: "As an accurate and scientific scholar and man of letters, and one of the first speakers and preachers of our time, he can not fail to bring fame and force to any institution, however high, with which he may be now or hereafter connected."

In 1872 Mr. Farrar became Chaplain in Ordinary to the Queen. In 1873 and 1875 he was again appointed University preacher, and in 1876 resigning the Head-mastership of Marlborough College, entered upon the duties of his appointment as Canon of Westminster, and Rector of St. Margaret's Westminster. He received the degree of D.D. in 1874, having earned it by writing a treatise prescribed by the Cambridge professors; which is now the rule or test of merit. In his present position he wields a very wide influence in English life and literature, not only on account of the character of the place itself and the prestige of scholarship and usefulness which he has brought to it, but also because he gives personal attention to the wants of the great population by which he is surrounded. We find him earnestly and even enthusiastically helping the organized movements for social reform. While the great mass of the Anglican clergy has appeared to be impassive on the subject of Temperance and the suppression of the traffic in alcoholic liquors, Dr. Farrar has shown the warmest interest in the moral and physical welfare of the masses. Several of his addresses on the immorality and pernicious effects of the liquor habit have been republished in this country and found extensive circulation.

While a teacher, Dr. Farrar published two educational works, "A Lecture on Public School Education," which was first delivered before the Royal Institution, and afterward issued, in 1867, with Notes, and "Essays on a Liberal Education," in which he was assisted by Prof. Seeley and Lord Houghton. In these he advocates the introduction of new methods for the practical instruction of youth, particularly in the classics. As a theologian and Christian orator Dr. Farrar figures perhaps the most conspicuously, and his works of late date have been more or less theological, viz., "The Fall of Man," "University and other Sermons," "The Witness of History to Christ," made up of his Hulsean lectures for 1870; "Seekers after God," a volume of the "Sunday Library," published in 1869; his most important work, "The Life of Christ," published in 1874, has been mentioned already. Its success has been very great, upward of twenty editions being called for in England, while its sale on this side of the Atlantic has been extensive. In the autumn of last year his "Eternal Hope," a compilation of five sermons on the state of the soul hereafter, was published; and quite recently "Language and Languages," a treatise of a philological cast.

As a writer he is distinguished for a graceful, rhetorical style, often approaching the florid, yet never wanting in dignity and strength. Few authors are more fascinating in narration, and whenever he tells a story from the pulpit the effect upon his congregation is intense. Perhaps a quotation from his address in King's College, Cambridge, on the claims of the Temperance movement upon the educated classes, will furnish an idea of the oratorical abilities of the Canon, and of the boldness of his appeals in behalf of moral purity. Had we space, we would gladly print the entire address. In the course of his argument he said:

"But you, it may be, are quite sure that you will never fall on Circe's island, or unmould reason's mintage. But why are you so sure? Is your nature so much stronger and nobler than that of Burns, or than that of Hartley Coleridge, or than that of Charles Lamb, with his sad cry, 'The waters have gone over me; but out of the depths, could I be heard, I would cry out to all those who have but set a foot in the perilous flood?' Or why are you safer than those six hundred thousand drunkards in these unhappy islands, many of them men of keen intellect,

many of them men of noble instincts, many of them men of most amiable character? How did these men become drunkards? Do you think that they were born drunkards? Do you think that they became drunkards the moment they tasted alcohol? Why, gentlemen, you know that there is only one way by which any man ever became a drunkard, and that is *by growing fond of alcohol*, at first in moderate drinking—either by the glass or by the dram—day by day a little increased—year by year a little multiplied—by the solitary becoming the frequent, and the frequent the habitual, and the habitual the all-but-inevitable transgression; till at last, some fine morning, as they awoke, perhaps in the shame of some inevitable fall, it came upon them with a flash that they are drunkards. This perhaps is the commonest method of ruin,

> "'We are not worst at once: the course of evil
> Begins so slowly and from such slight source,
> An infant's hand might stem the breach with clay:
> But let the stream grow wider, and philosophy,
> Aye, and religion too, may strive in vain
> To stem the headlong current.'

"But it is not always in this slow and gradual manner that men have become drunkards. Sometimes they have been moderate for years, and then at last, when they thought themselves perfectly secure, the temptation has come upon them 'terrible and with a tiger's leaps'—in the delight of some boon companionship; in the exhilaration of some sudden good fortune; in the agony of some unexpected bereavement. Gentlemen, if every one of you think yourselves so absolutely and so permanently safe from a temptation to which so many millions have succumbed; or if you think that, being absolutely safe yourself, no single person toward whom you have duties and whom you love—no wife or child, and friend or servant or parishioner—can by any possibility be ever tempted by your example, all that I can say is that, while I can not share your confidence, I most earnestly trust that no bitter irremediable experience may ever give you cause to repent of it in dust and ashes."

In another place he said the following, which applies with almost equal force to the condition of the masses in America as to the English public, viz.: "To me it seems, gentlemen, that there is only one remedy which can indefinitely prolong the national glory of England; there is but one resource which can counteract the dangers which threaten us from the pressure of life, the depression of trade, the growth of a deeply-seated discontent; there is but one way to diminish the ghastly total of crime, to close two-thirds of our prisons, two-thirds of our asylums, two-thirds of our workhouses; and that remedy, that resource, that way, is, that instead of continuing to be a drunken, we should become a sober and temperate nation; and in the present distress, amid the present perils, with the present repeated refusals of the legislature to interfere with the scandalous multiplication of temptations, there is but one way by which we can ever become a sober and temperate nation, and that is by the immense, the voluntary, the all but universal spread of total abstinence. The day may return—God grant it, and it is very far off as yet—when the present peril and the present distress are over, and England, shamed into decency and startled into repentance, may indulge, if it be an indulgence, and if she must indulge in the fermented juice of the grape, without one word of warning; but that day is not yet; and, meanwhile, do not be deceived into easy self-satisfaction by a mere talking about rose-water remedies which become practically an excuse for simply doing nothing."

HAPPINESS.—Would you possess it, dear reader, with all its attributes? Then do not sit down quietly with folded hands, expecting to be helped to a liberal share, as you would to wedding-cake. It cometh not thus. For happiness, as a luxury, to be enjoyed in its highest sense, you must labor diligently; not only this, but you must continue unceasingly and unsparingly to sow seed of kindness and love toward all, which, like fuel cast upon the waters, after many days will return to you again. A kind, encouraging word to one, a pleasant smile to another, a favor, with helping hand to the third, and so on; and above all, loving, hopeful letters, full of cheer, to the absent ones.

These are gems of worth that will *tell* in the make-up of your existence, far more forcibly than deeds of fame or renown. Should your efforts seem to be unappreciated, do not despair or relax your zeal; the Recording Angel on high never wearies in reckoning the good deeds of the faithful on earth, and be assured that every act of your life given to promote the happiness of others will reappear to gladden your heart in the great coming day; even more, 'twill place a brilliant star in your diadem of glory.

Then persevere in contributing to the happiness of all. "Give, and it shall be given to you," Scripture measure,

GRACE GARLAND.

RESULTS OF EXPERIMENTS IN NERVOUS FUNCTION REVIEWED.

Primary Nerve Structure—Cerebrum and Legallois—Cerebellum—The Medulla Oblongata the Respiratory Center—The Spinal Cord and Locomotion—Göltz, Bell, and Magendie—Optic Ganglia.

I HAVE in previous papers, as occasion required, discussed the differences in function that distinguish cells from fibers, the particular manner in which some fibers are stated to be motor and others sensory, and the mode of communication that prevails between cells, namely, by means of what are known as polar processes. It should be stated that nerve cells are distinguished as unipolar, bipolar, or multipolar. An unipolar cell is one that has but one process, namely, an axis-cylinder process. A bipolar cell generally exhibits an axis-cylinder process entering at one point and emerging at another. A multipolar cell is one of many processes, one, and the larger one, of which may or may not be an axis-cylinder process. There are next purely globular cells, elongated cells, and double cells united by a commissural band. The axis-cylinder process, when it exists, is readily distinguished by three peculiarities. First, it is larger than the mere polar processes; secondly, it is very direct in its course toward its destination; thirdly, it never divides and subdivides after the manner of the purely connective processes. In addition to these distinctions, some histologists, it seems to me without any sufficient reason, classify nerve cells as presiding over vital innervation, as devoted especially to motor innervation, and lastly as sensory cells. It appears to me that it is far simpler and more satisfactory to regard all cells as excitor in the first instance, and as excito-vital, excito-motor, and excito-sensory, according to the prescription of circumstances. From the most careful microscopic investigations I have been able to make, although I have been able clearly to identify the loop terminations of motor filaments, insisted upon by Prevost and Dumas, I am inclined to think that there is no absolute termination of the filaments distributed to muscular tissue. The reader who has ever carefully examined the soft and silken connective tissue, has observed that its structure consists of nucleated corpuscles. From this intermediate tissue spring, on the one hand, the minute fasciculi of muscular fiber, and, on the other, the nervous filaments, which subsequently collect into plexiform loops. It is secure, therefore, to say that, although in general anatomy the loop must be regarded as the typical termination of the motor filament, it has nevertheless no absolute termination, but gradually identifies itself with the connective tissue in a manner analogous to muscular filaments. The connective tissue of a muscle constitutes, therefore a motor surface communicating with the brain and spinal axis by means of nervous tubes. This surface is conspicuously distinguished by the absence of excitor cells.

In a similar manner the sensory surfaces are distinguished by what are known as axile corpuscles, which are practically brains containing excitor cells with which ultimate nervous filaments communicate.

It is an error popular with physiologists to regard these sensory and motor surfaces as structurally dependent on the central

axis of the nervous system, whereas fœtal development demonstrates that they are independent formations, between which and the cerebro-spinal axis communication is established by filaments. An axile corpuscle on the end of the finger, for example, is not a mere expansion of the filament or filaments with which it is in communication, but a structure of peripheral origin, connected first with a plexiform arrangement of the nerves of the skin, and lastly referent to the central axis by means of filaments. Again, the retina of the eye is a complex brain of vision, connected with the optic nerve that ends in a button in the back part of the eye, but not an expansion of that process. So with the auditory structure, and the olfactory, which terminates in a bulb from which filaments proceed. The primary distinction between these surfaces consists in the fact that the sensory are abundantly supplied with cells, while the motor are deficient in this respect. This may be experimentally demonstrated by obliterating the axile corpuscles of a sensory surface, when all evidence of the sensory function ceases after the lesion has completely healed, or by obliterating portions of the connective tissue of a muscle, when, after the lapse of a sufficient period for cicatrix, the muscle continues in a flabby condition, contractility is impaired, and it finally atrophies.

With these preliminary remarks, I will now proceed to review the history of experiment in this important direction. The medulla oblongata must be regarded as the most important center of the nervous system. The cerebrum may act after extirpation of the cerebellum, or the cerebellum after extirpation of the cerebrum; but the functions of both are obliterated by extirpation of the medulla oblongata, which unites the nervous organism into one compact whole and may be regarded as the vital brain. It is, as Legallois was the first to demonstrate, the great center of the inspiratory movements. The experiments upon which this view rests were repeated by him before a commission of the Institute of France, with the result of settling this question in so far as vivisection can be held to settle anything. In a rabbit a few days old the larynx was first dissected from the os hyoides, thus exposing the glottis, and the brain and cerebellum were then extracted without arresting inspiration, which was marked by four distinct movements—first, a gaping of the lips; secondly, an opening of the glottis; thirdly, a regular elevation and depression of the ribs; fourthly, a regular contraction and expansion of the diaphragm. On removal of the medulla oblongata, these movements simultaneously ceased.

In a second experiment he did not remove the whole vital bulb at once, but exscinded it in thin successive slices. The four movements continued after the removal of the three superior slices, but were extirpated simultaneously by excision of the fourth, which interfered with the origin of the fifth pair of nerves.

His third experiment was conducted in a still more scientific manner. On this occasion, with a view of determining the exact functions of the several pairs of nerves having their origin in the vital bulb, he divided the spinal column near the level of the seventh cervical vertebra, which arrested the motion of the ribs, the other three movements remaining intact and comparatively unimpeded. A second section near the first cervical vertebra, just above the origin of the phrenic nerves, suspended the motion of the diaphragm. Division of the par vagum suspended the action of the glottis, when there remained of the inspiratory movements only the motion of the lips to attest that the vital bulb still retained its excitor energy, and was prevented from exercising its functions by lack of communication with the muscles.

In 1830 M. Flourens repeated these experiments and confirmed them in every essential particular, distinctly tracing the action of the spinal column and the medulla oblongata in all the four classes of vertebrated animals. In the bird tribe he demonstrated that the lumbar and dorsal portions of the spinal column might be extirpated without impeding respiration, but the function was immediately arrested by destruction of the costal portion of the column. In the mammalia removal of the

costal portion arrested the movement of the ribs, but the action of the diaphragm was not extirpated until the phrenic nerves were injured; while in frogs obliteration of all the column except that portion communicating with the hyoidal muscles was attended with no interruption of respiration. In fishes removal of the whole column did not disturb the respiratory movements.

The result of these experiments was a tolerably certain demonstration that the spinal column exercises only a variable and relative influence on the respiration of the vertebrated animals, and that, in descending the scale, it progressively disengages itself from participation in this function, the medulla oblongata tending more and more to concentrate them in itself, until in fishes the functions of the spinal column and the medulla oblongata become wholly distinct, the former being a center of locomotion and sensation, the latter of respiration. The medulla oblongata is thus demonstrably the center of the vital movements.

From a second series of experiments M. Flourens came to the conclusion that there exists a point in the nervous centers at which section produces sudden annihilation of all the inspiratory movements, and that this point corresponds with the origin of the eighth pair of nerves, thus exactly confirming the opinion of Legallois.

My own experiments on this important bulb have had reference only to the determination of the single question whether the excitor vital center is constituted by the cineritious tissue of the olivary bodies, and were conducted on puppies six weeks old, with the assistance of partial anæsthesia, after which, with a real incision, I dissected out the gray layers of the corpora fimbriata with as little injury as possible. The respiratory movements were not wholly extinguished by this excision, but became at once broken, irregular, and spasmodic, demonstrating that the co-ordinating function of the vital bulb had been extirpated. I then laid open the spinal canal, and with a deep longitudinal incision through the posterior fissure of the cord, so as to injure the fibrous structure as little as possible, rapidly removed the central gray portion of the column down to the second cervical vertebra, with complete destruction to the inspiratory movements. Repeating this experiment with a second animal, I obtained the same result, thus demonstrating that the cineritious tissue of the vital bulb is its excitor center, and, by implication, that the pyramidal and restiform bodies are to be regarded as respectively processes uniting the cerebrum and cerebellum to the spinal column, and not as distinct excitor centers.

That the spinal column is a distinct excito-motor center was first demonstrated by Marshall Hall. Legallois appears to have regarded it as the *premier moteur* of the vital functions, and Flourens conjectured that it had the office of associating the partial contractions of the individual muscles into *mouvemens de l'ensemble* necessary to the co-ordinate action of the limbs. The gray interior axis of the cord is now known to be an excito-motor center concerned mainly in instinctive movements and capable of reflex excitability. The serous fluid in which it is immersed is also, according to Magendie, who styles it the cerebro-spinal fluid, peculiarly influential in determining certain phenomena. The quantity of this liquid in the human subject varies from two to five ounces, and is always interposed between the proper serous membrane of the cord (the spider's web tunic) and its vascular tunic known as the pia mater. This membranous bag communicates, of course, with the ventricular cavities of the brain, and in living animals may be made to issue in a weak jet by merely puncturing the serous tunic, its removal or considerable reduction occasioning symptoms analogous to those of rabies in the dog, and its sudden augmentation inducing immediate coma.

The sources of fallacy necessarily accompanying experiments on the several sections of the spinal column, are so many and so interwoven with its complexities of structure that the history of experimental investigation in this important department presents a series of results apparently contradictory. From the fact that it is properly developed from two excitor centers, it would be inevitably concluded that the inferior portion of the gray axis has excitor properties

comparatively independent of the superior, and this has been proved by repeated tests; but beyond this, very little of value to systematic psychology has yet been demonstrated. While, as Brown-Séquard has conclusively tested, section of the posterior white columns extirpates the locomotor function by destroying the connection of the cerebellum with the muscles of the legs, it seems to be conclusively established that the posterior fasciculi of the spinal nerves are specially appropriated to sensation, and the anterior to motion; but, on the other hand, if the posterior cord co-ordinates the function of locomotion, since no decussation between the posterior and anterior occurs in the act of descent, it is very evident that certain portions of the posterior fasciculi must minister to motion, or that, on a large scale as well as a small one, the hard and fast distinction between motor and sensory activity must be abandoned as objectionable. From a preparation of the nervous organism of a mouse, I find that some of the filaments of the posterior fasciculi had a muscular distribution, while the greater portion of them terminate in corpuscles of sensation, but that the distribution of the anterior fasciculi to the purposes of motion appears to have been invariable. This fact points to the hypothesis that the ganglia with which the posterior roots of the spinal nerves are furnished probably participate in those reflex actions that result from irritation or tickling of the hollow of the foot, if they are not exclusively the centers in which such actions originate. In the preparation in question, it may be observed as a general fact, that the posterior motor filaments may many of them be traced into the cerebellum, while the sensory are more generally traceable to the gray axis of the column itself. I have at hand an excellent preparation of the nervous organism of a humming-bird, selected for the experiment on account of its relative compactness, in which the same general arrangement is very evidently demonstrable; also, a tolerably perfect preparation of the nervous system of a young black snake, which furnishes a rudimentary example of the type.

Göltz's experiments with frogs are decidedly demonstrative of the instincto-motor activity of the spinal column. My own observations have been directed to two purposes—first, to ascertain whether the ideo-motor influence of the anterior portion of the cerebrum is exclusively transmitted by way of the anterior cord, and, secondly, to ascertain the commissural function of the thin lamina of cineritious tissue uniting the two crescentiform lateral gray strands. In a puppy seven weeks old I divided (under anæsthesia) the vertebræ down the middle of the back; then carefully pressed an extremely delicate scalpel down the fissure between the posterior cords, completely dividing the lamina longitudinally, with very little injury to the rest. The slight elasticity of the anterior parietes of the canal sufficed to bring the divided posterior parietes together; a fine needle and a little white silk nearly obliterated all external evidence of the lesion. To the usual allowance of milk I now added a moderate allowance of beef tea. The result was what I had anticipated, not an extirpation of the co-ordinate action of the two halves of the body, but a decided and general want of harmony in movements of the instincto-motor type, with evident loss (but not obliteration of it) to the faculty of associating the muscular movements of the hind legs. In my second experiment, by means of a delicately-curved blade, I pretty completely severed the anterior cords, with very trifling injury to the gray axis and the posterior, near the second cervical vertebra. The destruction of muscular movements of the ideo-motor type was not so complete as I had anticipated, although there was an obvious lack of immediate connection between the ideo-motor and the associated classes.

Suspecting from these data that the corpora quadrigemina (optic ganglia) were also concerned in locomotion, I severed the ribbon of fibers communicating between them and the central portion of the cerebellum, in a third animal, when, notwithstanding the integrity of the ideo-motor centers of the cerebellum, and the cord, the animal walked directly against obstacles placed in its way, and although it turned its head as usual, appeared to be incapable of motion except

directly forward. The eyes responded to the stimulus of light, but were fixed in a directly forward gaze. On applying the current of a small battery to these bodies in an unmutilated animal, the muscles of locomotion very decidedly responded to the stimulant, a fact which seems to me conclusive as to the influence of the ganglia of vision on the locomotive function. I then severed the band of fibers connecting them with the cerebellum, and the current was ineffective. This band is, therefore, rather an extension of the optic system to the cerebellum than a general commissure uniting the latter to the cerebrum. I will merely ask investigators to verify these facts, without entering into further description of them. According to Magendie, who regards the posterior white cord as a conductor of sensation and the anterior as appropriated to motion, the slightest puncture of the former elicits symptoms of intense suffering, whereas the anterior white cord manifests very little evidence of excited sensibility under similar circumstances, and the gray axis may be seriously lacerated without occasioning any evidences of pain.

(To be concluded in October.)

BRAIN AND MIND.

CHAPTER VII.—*Continued.*

IDEALITY.

THE situation of this organ is in the second frontal convolution of Ecker near the vertical frontal fissure. On the cranium its place is found in the temporal region of the frontal bone, directly above Constructiveness. (Fig. 17–21.) Dr. Gall called this the organ of Poetry, because he invariably found that the

Fig. 54.—Ideality Large.

region which it occupies was large in the heads of living poets whom he had the opportunity to examine, as well as in the pictures and busts of all who had been eminent for the gift of poesy. Dr. Spurzheim, however, considered it impossible "that poetry should be confined to a single organ," and after a careful analysis, declared its function to consist in giving to the mind inspiration, rapture, and exaltation of sentiment. Hence he named it Ideality; the capacity for forming ideals of beauty and perfection. In general terms the faculty may be designated as the sense of the beautiful, the poetical sentimental, since it imparts when active, elevation, refinement, taste, and a love of the beautiful in nature and art; and is essential to the musician, the painter, and the sculptor, as well as to the poet—giving to their productions an exquisiteness and finish which the other faculties, however perfect, could never produce.

"What are the flowers which deck the fields," Mr. Combe says very appropriately, "combining perfect elegance of form with the most exquisite loveliness, delicacy, and harmony of tint, but objects addressed purely to Ideality and the subordinate faculties of Coloring and Form? They enjoy not their beauty themselves, and afford neither food, raiment, nor protection to the corporeal frame of man; and on this account, some persons have been

led to view them as merely nature's vanities and shows, possessed of neither dignity nor utility. But the individual in whom Ideality is large, will in rapture say that these objects, and the lofty mountain, the deep glen, the roaring cataract, and all the varied loveliness of hill and dale, fountain and fresh shade, afford to him the banquet of the mind; that they pour into his soul a stream of pleasure so intense and yet so sure and elevated, that in comparison with it, all the gratifications of sense and animal propensity sink into insipidity and insignificance. In short, to the Phrenologist, the existence of this faculty in the mind, and of external objects fitted to gratify it, is one among numberless instances of the boundless beneficence of the Creator toward man; for it is a faculty purely of enjoyment—one whose use is to refine and exalt, and extend the range of our other powers, to confer on us higher susceptibilities of improvement, and a keener relish for all that is great and glorious in the universe."

In conformity with this view, the organ is deficient in barbarous and rude tribes of men and large in nations which have made the most advancement in civilization. It is small in atrocious criminals; and it has been observed that persons born in the lowest walks of life, whose talents and industry have raised them to wealth, are susceptible of refinement in manner, habit, and sentiment, in proportion to the development of this organ and that of Approbativeness; whereas if it be small, their primitive condition is likely to cling to them through life.

Dr. Gall observed this organ large in an insane patient, and indicated the fact to the physician of the hospital. The physician replied that the patient during his state of alienation continually employed himself in composing verses, some of which showed merit; yet he belonged to the lowest class and had received no education. Dr. Willis also mentions a patient, who, during his paroxysms of insanity, was conscious of the most delightful and elevated emotions, and wrote poetry and prose with great facility. This state of feeling always disappeared when the fit passed off.

Where Ideality is largely developed and the organs of the intellect are ill-balanced or insufficient, the person shows a want of judgment in appreciating the affairs of ordinary life. He appears to live in a sphere of his own, and invites censure or criticism because of his eccentricities of thought and act and his neglect of practical duty. Persons so constituted are often unhappy and dissatisfied because their actual experiences fall much short of their ideal notions of excellence and completeness.

IMITATION.

The situation of this organ is marked upon the side of the top-head just above Ideality and a little forward. (See Fig. 17–22). In the brain its place appears to be in the second frontal convolution adjoining the vertical frontal fissure and lying against the sulcus which divides the second from the first frontal convolution. If it be large and Benevolence small, the head approaches flatness across the anterior coronal region; while large Benevolence with small Imitation imparts to the head in this region a slanting appearance, like the roof of a house.

Imitation gives the disposition to copy persons or things or to mimic, as in acting. It is essential in all occupations which have to do with working after

models, as well as to those intellectual employments concerned in the representation of the mental traits and manners of others.

Dr. Gall was led to the discovery of this organ by observing the peculiar configuration of the head of a friend who was remarkable for imitative talent. Supposing that there might be a relation between this form of head and the mental characteristic for which the gentleman was distinguished, Dr. Gall at once repaired to a deaf and dumb asylum where a pupil had attracted much attention by his astonishing powers of mimicry. At a little play which was performed in the institution, this boy had imitated so perfectly the gestures, gait, and looks of the director, inspector, physician, and surgeon of the establishment, that they were readily distinguished by the lookers-on. The education of the boy had been totally neglected, and nothing of the kind was expected from him. Dr. Gall found the same region of the head to be similarly developed in this boy as in his friend, and by many subsequent observations he established the organ and faculty.

Fig. 55.—Imitation Large.

The old writers on metaphysics generally admit a special faculty of Imitation, but have been disposed to give it a much wider field of action than Phrenologists attribute to it, since they appear to think the power of acquiring knowledge largely or entirely depends upon it, whereas observation shows that the kinds of knowledge are various, and that those who possess the most active imitative powers may not evince quickness of apprehension. A man may be very successful as an actor, but be far from remarkable for his knowledge of literature and science.

The ease with which some persons adapt themselves to the mood or manner of others and so form desirable associations or obtain their good-will and co-operation, depends largely upon the possession of a liberal development of Imitation. Hence the faculty bears a very important relation to success in all the affairs of life which require personal communication of man with man.

Fig. 55.—Imitation Small.

The position of this organ indicates that its function is related naturally to the observance and expression of the moral and perfective attributes of human nature, and, therefore, it is obviously an element in the higher growth of man. In those organiza-

tions which are conspicuous for development of the moral sentiments, Imitation is usually well-marked. Dr. Brown says that it would seem as if "the Creator intended that the legitimate exercise of Imitation should be directed to the copying of virtuous actions and the enhancement of the effectual manifestation of the intellectual faculties.

MIRTHFULNESS.

This organ is also named Wit, and lies in the upper lateral portion of the forehead adjoining the temporal ridge of the cranium and between Causality and Ideality. (See Fig. 17–23). Its function is to impart to the mind a sense of what is witty, ludicrous, and incongruous. Upon its size depends the disposition to be humorous and to enjoy the comical and grotesque.

Fig. 57.—Mirthfulness Large.

The analysis of the part performed by this organ in mental affairs has been the theme of much discussion among Phrenological writers and others, some attributing to it a wider province than that of appreciating the mirthful, and, consequently, including it among the reasoning faculties. Mr. Combe considers the faculty from many sides in his "System," and coincides himself with the opinion of Dr. Spurzheim that it is concerned in the manifestation of any form of intellectual conception combined with the sentiment of the incongruous. In other words, that its function is to inspire witty and ludicrous associations of ideas. Like the other organs, its expression varies in accordance with the mental culture and the influence exercised upon it by other faculties.

Mirthfulness is a very important element in the mental constitution. It would be a dreary world if all men were habitually grave and solemn, and our social gatherings would be deprived of a large share of their pleasurable and even profitable influences if the humorous element were wanting. It imparts an exhilarating influence to mind and body, which is highly conducive to health, and we have Scriptural authority for saying, "A merry heart doeth good like a medicine," while Shakspeare adds his testimony, to the effect that "A merry heart lives long."

In the heads of those writers whose works are remarkable for humor and wit, like Sterne, Goldsmith, Sheridan, Benjamin Franklin, Joseph C. Neal, Mr. Clemens ("Mark Twain"), and in eminent comedians, the organ, or rather the region of the head in which it lies, is very prominent.

AMATIVENESS.

The most careful researches have indicated the cerebellum as the seat of the procreative instinct. The position of the cerebellum is shown in Fig. 11 lying directly under the posterior lobes of the cerebrum. (See also Fig. 17–1). Its size is measured by the peripheral expansion of the parts between and backward from the ears. A faculty or disposition is obviously essential to the continuance of animal life in its successive generations, and it is the function of Amativeness to inspire the sexual feeling incident to such continu-

ance. In the normal activity of this faculty there is nothing that is base or lewd. It exerts a pleasing influence upon the minds of the sexes in their association; awakening in each a kindly interest in all that concerns the other. "In this quiet and unobtrusive state of the feeling," says Mr. Scott, "there is nothing in the least gross or offensive to the most sensitive delicacy. So far the contrary, that the want of some feeling of this sort wherever it appears is a very palpable defect and a most unamiable trait of character. It softens all the proud, irascible, and antisocial principles of our nature in everything which regards the sex which is the object of it; and it increases the activity and force of all the kindly and benevolent affections. This explains many facts which appear in the mutual regards of the sexes toward each other. Men are, generally speaking, more generous and kind, more benevolent and charitable toward women than they are to men, or than women are to one another."

Fig. 58.—Amativeness Large.

In newly-born children the cerebellum is the least developed portion of the brain. Its weight then, as compared with the cerebrum, is as one to thirteen, fifteen, or twenty. It increases greatly in size at puberty, and attains its maximum between the ages of twenty and twenty-five. Its size then, in comparison with the cerebrum, is as one to eight. It is in general relatively smaller in females than in males. While there is much difference of opinion among physiologists with respect to

Fig. 59.—Amativeness Small.

the relation of the cerebellum to muscular movement or motory impulse, high authority, *extra* phrenological, seems to be in accord in locating the sexual propensity in some part of the cerebellum.

PHILOPROGENITIVENESS.

This organ is marked in the general diagram as lying on the mesial line of the head just above the cerebellum. It occupies in the brain the lower occipital convolutions adjacent to the occipital protuberance of the cranium. Its function, as indicated by its name, is that of imparting an instinctive love of the young, especially of one's own children. It is adapted to the helplessness of infancy and the weakness and inexperience of childhood. Without the fostering care which this faculty inspires, the young of man and most of the lower animals would perish in their infancy, and their races would soon become extinct. But the Creator has made provision for the continuance of His creatures by endowing them not only with a powerful instinct of propa-

gation, but also with an intense love of offspring which leads them to the most self-sacrificing efforts in watching over, protecting, and providing for their progeny. Many animals, by nature most timid, become bold and dauntless when

Fig. 60.—Philoprogenitiveness Large.

their young are assailed, and the most ferocious possess a tenderness for their offspring which elicits the admiration of the observer. There is a pathos in the affectionate solicitude of the lioness and tigress for their cubs which has often turned the hunter from his purpose of destruction. The eagle will fight with desperate fierceness against the attempts of man to approach her nest when it contains a brood, and all are acquainted with the reckless audacity of the domestic fowl when she deems her chick in danger.

"It is a remarkable ordination of nature," says Mr. Combe, "that the direction of this feeling bears a reference to the weakness and helplessness of its objects rather than to any other of their physical or moral qualities. The mother dotes with fondest delight on her infant in the first months of its existence when it presents fewest attractions to other individuals; and her solicitude and affection are bestowed longest and most intensely on the feeblest member of her family."

This organ, as a rule, is much larger in women than in men, and in the females of all animals than in the males. There are, however, notable instances of deficiency of this organ even in women. Dr. Gall relates the case of a lady of Vienna who loved her husband tenderly, but who sent from home as soon as they were born all the nine children to whom she gave birth and for years never asked to see them. She was unable to account for this want of affection toward her offspring, and was somewhat ashamed of it. To satisfy her conscience, she insisted on her husband seeing them every day and taking charge of their education. Drs. Gall and Spurzheim found the organ deficient in twenty-five out of twenty-nine infanticides whose heads they had occasion to examine.

The skulls of the Esquimaux present a great prominence in the region of this organ, and many Arctic travelers have made mention of the ex-

Fig. 61.—Head of a Negro.

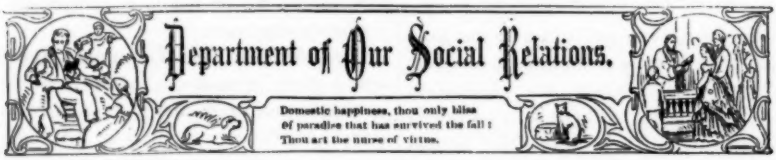
treme ardor of affection which they manifest toward their children. Captain Parry says, in speaking of these people: "Nothing, indeed, can well exceed the kindness with which they treat their children; and this trait in

their character deserves to be the more insisted on because it is in reality the only very amiable one which they possess."

Crantz's testimony is equally strong as to the manifestation of this faculty by this people. He says that "While you will scarce find a Greenlander do good to one another without the mercenary hope of some speedy retribution, there are, on the other hand, traces of a stronger love between parents and children and the many passions arising from it than there are among other nations. A mother can not suffer her child to be out of her sight, and many a mother has drowned herself because her child hath been drowned."

Like the inhabitants of the Arctic zone, the negroes of the torrid are remarkable for their parental affection, and the negro skull is equally remarkable for its occipital elongation or fullness. On the other hand, some of the uncivilized tribes show a decided lack of consideration for their young. Rev. J. G. Wood states that the native Sandwich Islanders are indifferent to their children, often leaving them to hunger and exposure through negligence. In the skull of this race the organ of Philoprogenitiveness is but moderately indicated, and signally deficient when compared with its development in the negro.

(To be continued.)


Department of Our Social Relations.
Domestic happiness, thou only bliss
of paradise that has survived the fall!
Thou art the nurse of virtue.

WHY?

IT was such a bright, cheery sitting-room. The long, southern windows, draped only with lace curtains, admitted the full light of the clear June morning. The sunshine streamed unfrowned at across the warm-hued carpet. It shone on easy-chairs that had evidently been harbors of rest to many weary forms; it shone on bright summer landscapes hanging upon the walls; it shone through green leaves and vines that had gathered around the window to listen to the song of the happy little bird hanging in his cage, and collecting the yellow sunlight on his breast to pour it out of his throat in liquid melody; and above all, it shone on the matronly form and smiling face of Mrs. Clara Meadows, who sat with her basket of darning just behind the group of flowers.

She was by no means the least attractive object in the room. Fifty-five years of age and a grandmother, there were yet no wrinkles on cheek or forehead, except such jolly ones as smiles make. Her fair hair showed few threads of silver among the gold, and like her heart, seemed to reflect all the sunshine that fell to her share. Her dress of a soft, neutral tint was brightened by a blue ribbon at her throat; and altogether, she, with her room, seemed like some lovely *genre* picture, which might be appropriately called Contentment, or any name suggestive of peace of soul. Her very employment seemed to borrow a poetic grace from her surroundings, and suggested comfort, motherly care, and true womanly pride instead of poverty or homely economy.

And how well her name suited her character. Clara Meadows. Clara—clear, bright. Yes, through bright, sunny meadows her

pathway seemed to lead, if one judged of her lot by her countenance; and her favorite Scripture motto was, "The Lord is my shepherd, I shall not want. He maketh me to lie down in green pastures, He leadeth me beside the still waters."

As she darned her stockings this morning, she was thinking about a little poem she once read, likening life to a stocking which we are knitting, and which is ended when we finish off the toe. And she thought, "Many of us, I fear, get holes in our stockings before we 'toe them off,' and we have to wear them with holes, if some one does not take compassion on us and patch or darn them for us. Darns are not very ornamental in a stocking, nor in a life, but they are more ornamental and more comfortable than holes. A patched honor is better than a ragged one; a veracity that is darned and mended is more desirable than one that is all out at the heel."

At this point her musings were interrupted by the entrance of a neighbor, a woman of about her own age, but in personal appearance a contrast to herself.

While Mrs. Meadows seemed to radiate sunshine from hair, eyes, and smile, and even from her attire, Mrs. Unruh seemed to have absorbed all the light that ever fell upon her; absorbed, but never radiated or reflected any. From the sombre hue of her bonnet, down through her lustreless iron-gray hair, her faded brown eyes, her sallow, colorless face, and bloodless lips, to her dead-black dress and dull gray necktie, there was not a gleam of light or color, not a relieving tint to all this shadow and sombreness; and to judge from the discontented lines on face and forehead, her outward appearance was but the reflection of her inward moods.

Rachel Darke and Clara Spring had been schoolmates, and since marriage, near neighbors, and in a certain way friends in spite of the great dissimilarity of character. Mr. Unruh, Rachel's husband, was a man of business, a money-making man, whose thoughts were ever busy with plans and speculations, but who in a certain way enjoyed the elegance his wealth procured. Not in using it at home for personal comfort—Mrs. Unruh would scarcely permit that—but in displaying to admiring friends the fine furniture which adorned the palatial residence, which the architect, at his command, had planned and erected.

When Clara Spring married Arthur Meadows, people prophesied that they would never have anything, for he was only a poor school-teacher; but when, at the age of fifty, just ten years before our story opens, he died, he said to his wife, as he lay awaiting the coming of the last Messenger:

"People made a mistake in their prophesies, didn't they, darling? For we have had a great deal of comfort together, and we shall yet have an eternity of happiness in each other's society."

And though her life seemed more lonely after he was gone, yet these last words comforted her, and the sunlight of hope broke through and dispersed the clouds of sorrow.

"Good-morning, Clara," said Mrs. Unruh, as she entered the room. "You look as happy as ever. I'm sure you are not puzzling yourself over unanswerable 'Whys?' this morning. I wonder if everything in your life don't always come just as you expect and desire?"

Mrs. Meadows placed a chair for her guest as she replied:

"A moment's thought, my dear Rachel, would answer that wonderment for you. True, I expected for some time, but never desired my husband's death."

"Oh, I beg your pardon for my careless words, but I am in such a discontented mood this morning, and you always look so enviably happy, it almost seems as if your every wish must be gratified. I really don't see why it is that I never can have the things I most desire."

"Many people fancy, Rachel, that the wealthy Mrs. Unruh can have every wish fulfilled without any trouble, and yet it seems that you have learned that money will not buy contentment."

"No, money will not buy back the past, nor give to age the gifts and graces of youth. When I was young and had time and talent, I could not have opportunities.

Now I could have opportunities, but have neither time nor ability. I was down street this morning, and as I came home in the horse-car I saw a poor artist whom I really envied. His coat was ragged, and a great darn extended the whole length of his back, but he carried in his hand a package of canvases, on stretchers ready for work, and I thought how happy he is; in spite of rags and poverty he can create around him a world of loveliness, and forget the reality of life in the reality of beauty. Then I thought of Margaret Winslow, who went to Europe to study art, and became quite renowned as a painter. Why couldn't I have gone abroad to study? When we were at school together I know I had more ability in drawing than she had, but she obtained the opportunity which I am sure I could have improved as well as she did. I don't see why I should have all these desires for self-culture and never have an opportunity to gratify them. Why is it, do you suppose?"

"Your natural love for art certainly enables you to be a better judge of artistic productions, and you obtain more enjoyment from the study of a fine painting than if you had none of the natural gifts of an artist."

"I don't know," said Mrs. Unruh. "I do not see that the ability to get up a fine meal adds in the least to one's enjoyment in the eating of it. I'm sure I can relish a good dinner without wishing I were a good cook."

"Perhaps," said Mrs. Meadows, smiling, "it is because the opportunity to be a good cook was available in your younger days that you do not regard it as a lost opportunity. It is human nature to prize most highly the things which we can not obtain."

"Yes, I know that," replied Mrs. Unruh. "It was that disposition on the part of Eve that has caused us all so much sorrow. Like me, she was always asking 'Why?' and 'Why not?' I wish, though, that she had been content with the good things permitted her."

"We might not have been so much better off if she had. She desired knowledge, and risked something to obtain it, and this desire for knowledge, being transmitted to her children, has been one grand secret of the world's success. If we were always contented, where would be our progress?"

"Then you think there may possibly be a reason why I should have not been permitted to gratify my longings, and so become discontented? I can't see, though, what improvement I've made by being discontented. It seems to me I should have been much happier if I could have had what I so eagerly desired; and if happier, why not better in every respect?"

"Did you ever think that the mental gifts that we have may have been given us for some other purpose than to cultivate for our own enjoyment?"

"I'm sure I do not see of what value gifts can be if we can't have an opportunity to use them. Won't you explain yourself?"

"Perhaps I can best explain my meaning by relating an incident in my own life. A few months after I was married my dear old grandmother came to make me a visit. That visit has been of life-long benefit to me, for she taught me many valuable lessons, drawn from the lore of her own experience. One day, a few months before the birth of my oldest child, I was recounting to grandma some of my grievances. Said I:

"'I always thought that after I was married I would not give up my music; but see how it goes: day after day passes by and I can't get a chance to open the piano to practice, and at night Arthur likes to hear simple hymns, and it frets me to play them when I want to be practicing my Beethoven. I don't see why I should have such a love for the highest music and no chance to cultivate it.'

"Said grandma, in her quiet way:

"'Maybe that love was given you for your children more than for yourself.'

"'Why, how do you mean, grandma?' said I.

"'I mean that we can't give away what we have not got ourselves; and therefore what we have must have been given to us by some one who possessed it. Did you ever think that your mother had great musical ability?'

"'Why, no!' I replied. 'She never

played the piano. She had a sweet voice, I know, and used to sing to us children.'

"'Yes,' said grandma, 'her musical talent was mainly employed in lullabys, and so was mine, and yet we both possessed some of the musical ability of our ancestor, who was an organist, violinist, vocalist, and composer. We had no opportunity to cultivate this gift, but we kept it for you. You have had some chance to obtain a personal benefit from its possession. For this you should be thankful and not repine that you have not had more enjoyment from it. Look upon all your gifts, my daughter, as treasures entrusted to you for transmission to posterity, and not merely as means for your own personal pleasure.'

"'But,' said I, 'if I can not cultivate them, they must be wrapped in a napkin, whereas if I had opportunities I might increase my one talent to ten.'

"'That is true,' said grandma. 'If opportunities are given you, and you do not improve them, you are culpable; but if, having ability, you are yet Providentially denied its culture, you can not doubt that you are wisely denied. No one has opportunity to develop uniformly each talent they possess, and yet there must be a reason for their possessing it, and what better reason than that by its possession it may be transmitted, and some one who in the future inherits it may be able to develop it into something grand and noble. I had a friend who, in early girlhood, removed to the Far West with her parents. She was a girl of good natural ability, but in her Western home her educational advantages were few. She desired knowledge. She read eagerly the few books that fell in her way, and improved every opportunity to acquire general information, but many of her desires remained ungratified. She accepted her lot cheerfully, and often said to me: "Perhaps what I can not obtain may yet be granted to my children." And in this she was correct. Her sons and daughters inherited her love of learning, and she has lived to see each one of her gifts embodied in her children. Her oldest son has her musical talent. Her oldest daughter, her literary ability. And her youngest daughter seems to have inherited, with a marked increase, nearly all of the gifts which in the mother were, for lack of opportunity of cultivation, only latent. Often have I sat with her in her elegant parlor listening to the music, the recitations, and home theatricals of her family, and admiring the artistic productions of their skill which adorned the walls, and have heard her say: "How happy I am that God gave me abilities to transmit to my children. This is a part of my immortality. In them I live and shall live and improve forever."'

"Many times after this have I thought of my good grandmother's talk with me that day, and especially of her closing words:

"'My daughter, don't defraud your children before they are born.'

"She would not explain this remark to me, and I puzzled over it a good deal, but in time I came to have, I think, at least a partial comprehension of her meaning."

"Well, I'm sure I can not see what she meant," said Mrs. Unruh, "especially in this connection. If you haven't talents, you say, you can not transmit them, and if you possess them you will transmit them, and I should think that if you could cultivate them you'd transmit them in a still higher degree, and not being able to cultivate them, would in reality be defrauding your children. Seems to me that is an argument on my side."

"Yes, one might, at first glance, think so; but there are several views which may be taken of the subject. If a woman, having a gift or talent, without opportunity to develop it to the fullest extent, frets and worries over this inability, her child may possess her talent, but it may also possess such a discontented, unhappy disposition as to be utterly unable to make any real use of the talent. Look at Lucy Manson. Her mother, you know, had a good voice, but could not have training. She was always repining that she was deprived of musical culture. She would never sing without making so many apologies for herself because of this lack of training that one was wearied before she began, and did not listen half as leniently as if she had said less. Her great anxiety was that Lucy should be a

musician, and so she had her musical education begin very young. But with her mother's genius she had inherited her mother's petulance and discontented spirit. She found fault with her teachers. She was disinclined to do the hard work of laying the solid foundation of excellence. She could play so nicely by ear that she saw no need of playing by note, or drilling in scales and finger exercises. As she grew older she was very impatient of correction, and she has grown up to be a very self-willed, conceited young lady, with a fine voice, and yet, in spite of the best of opportunities, she has failed to improve them because of the lack of certain elements of character which are necessary to success in any field."

"Do you, then, consider her mother to blame for these defects of Lucy's character?" asked Mrs. Unruh.

"Why not?" said Mrs. Meadows. "We have the power to give evil as well as good gifts to our children, and our defects are as likely to be immortalized in our posterity as our virtues and graces."

"Well, in what other way do you find that mothers may defraud their children?" asked Mrs. Unruh.

"Let me illustrate again by the life of one of our friends. Mrs. Deal has wonderful skill as an artist, and some ability as a poet. Are her children inheritors of her talents?"

"Why, yes; they are all talented, but they haven't strength enough to do anything. They've as much as they can do merely to live."

"Then they were defrauded by not having physical endurance given to them, were they not?"

"But how was their mother to blame for that? She did not 'have the say', as to what their physical strength should be."

"Didn't she? Let us go back to our original proposition, that we can't give to another what we don't possess ourselves."

"That's it exactly. Mrs. Deal hadn't health herself, so she could not give it to her children."

"And that," said Mrs. Meadows, "is just where she defrauded her children in not having health to give them."

"Oh," said Mrs. Unruh, "I think, Clara, that is going a little too far. It is easy to say, 'She should have health,' but it is not in every one's power to be healthy."

"Perhaps not to be in perfect health, but Mrs. Deal could have done much more for her children in that respect than she did. You know what her life has been—one of fashionable dissipation from early girlhood. She herself was defrauded of physical stamina by her own mother, and she knew no better way of doing than the way in which she was brought up. I do not mean to say that she is morally guilty because her children are puny. She was ignorant; but ignorance, alas, does not save us from the penalty of violated physical law. Not one of her children was desired, and so they were defrauded of the loving welcome to life that the good mother gives to her little child. She took no special care of her health because of their coming. She kept just as late hours, ate just as stimulating and innutritious food, dressed as fashionably and unhealthfully, lived no more devoutly, or even cheerfully, and what wonder that the poor little ones have feeble bodies and unhealthfully active brains. The genius which they have inherited, with their delicate structures and small vitality, is like a devouring flame which will destroy the fragile house of clay or else shatter the beautiful mechanism of thought and reason and leave the mind a blank."

"Oh, dear me, Clara, you put a dreadful load of responsibility upon the shoulders of mothers. What appalling thing have you to say next? Why, just to think of it! We are to blame if our children are not smart, or healthy, or beautiful, too, I suppose; and we are to blame if they are smart, but too hateful or lazy to use their abilities? I am glad I did not believe anything of that sort."

"On the contrary," said Mrs. Meadows, "I think if every mother did believe fully and completely that the future welfare of her children is largely under her own control, she would have less reason for anxiety, and would be able to bear more courageously the hours of anxious waiting, knowing that Divine wisdom lays upon no

human being a responsibility greater than she is able to bear; and besides, she would feel how high is her position, how great her glory, in thus being entrusted with the molding of a life both for Time and Eternity."

"It is too much for a puny mortal," said Mrs. Unruh. "I am sure I could not bear it."

"But, can you not see, Rachel, how such views would increase woman's respect for herself; how it would ennoble her life, and how, instead of repining because of the interruption of her pleasures by the advent of maternity, she would rejoice in the thought of sending down to future generations the best elements of herself, both physical and mental? I have a friend who does not believe in the immortality of the soul. She says, 'My immortality is in my posterity. To my children I have transmitted my life, and through them it will go on forever. Insomuch as I am better and nobler, in that much will they be made better and nobler, and my immortality be more worth the having.' Now, while I believe with her in this earthly immortality for ourselves through our children, I carry it still farther, and hold that our heavenly immortality may be enhanced in happiness by having given a noble possibility on earth to those whose lives and opportunities are not bounded by Time, but to whom Death opens a boundless future of purest happiness."

"You do not, then, regard mental defects and physical deformities, disease and death, as Providential dispensations?"

"Yes and no. All of these things come in accordance with a law known or unknown, and as the law and the penalty are ordered by God, we may call them Providential dispensations. Just as we may say that it was a dispensation if a man were to fall into a stream and be drowned. He may have fallen in while endeavoring to rescue a child from death, but the nobleness of his motive did not annul the law, which is, that water, under certain circumstances, will destroy life. A man has a fever. There are laws which govern the propagation of the poison which produces fever, its introduction into his system, its growth, and its elimination from the system, and in accordance with those laws and their relation to his own vitality, he will die or recover. Was it Providential or not? Certainly it was. And yet a wider knowledge of sanitary laws might have prevented his having the fever, or having it, might have enabled him to recover. Law governs everything, great or small, and penalty follows disobedience; and this is the Divine plan, and therefore a Providential dispensation."

"It was, then, a Providential dispensation that I should have these desires, and also that I should have no opportunity to cultivate them?" said Mrs. Unruh.

"Certainly. The desires or talents came to you through the law of inheritance; the lack of opportunity was in accordance with the law of your surroundings; and if the All-Father had seen fit to give you opportunities, He could have done so without violating law."

"But as He did not give them to me, was I not justified in thinking those talents were not to be cultivated?"

"There are various ways of cultivating one's talents," said Mrs. Meadows, "and as you desired them to be also transmitted in a high degree to your children, it was your duty not to wrap them in a napkin and bury them."

"Tell me just what I ought to have done," said Mrs. Unruh.

"That is a difficult thing to do," said Mrs. Meadows; "for I might seem to be censuring you in the past."

"And now," said Mrs. Unruh, "it is too late to repair the error; but still I might be able to help some one else if I saw where I had made my mistakes."

"Your talent," said Mrs. Meadows, "was with your pencil. Did you practice drawing any after you were married?"

"No. I could not draw to my satisfaction. I could have no teacher, and so I did nothing with it, unless it was to grumble about it."

"Did you ever try to teach your children to draw simple objects on the slate, when they were little?"

"No, indeed. I wanted them to learn, and thought they ought to have a teacher; but as they could not then have one, they did not learn to draw, and that has always been a great sorrow to me, for Albert, I think, really had talent. Drawing was not taught in schools in those days."

"Couldn't you have taught them to draw straight lines, triangles, squares, and simple things as stools, chairs, or tables, and then leaves and flowers, cups and saucers, and so on?"

"Why, yes, I suppose I could."

"Then you would have been helping them and cultivating your own talents too. But when you looked at fine pictures, what were your thoughts?"

"Always rebellious that I could not have had advantages of study, and have been able to make beautiful pictures too. But what difference would it make to my children what I thought in looking at pictures?"

"If, in seeing things of beauty, you had made them a joy to you, had made them studies of form or color or composition, or if you had only made them ministers to your own happiness, your children would have been more apt to inherit from you a true artistic taste, a more perfect æsthetic nature than if you poisoned the stream of inspiration by unhappy and rebellious thoughts; do you not think so?"

"All this that you say, Clara, reminds me of a neighbor of ours when I was a child. Old Dr. Clark was the best physician in all that region. He had but one child, a daughter. Every one said what a pity that Ellen Clark was not a boy, so that she could take her father's practice when he died, and I think the old doctor sometimes felt so himself. Ellen seemed to inherit her father's love for medical studies; but it was then thought improper for women to know anything about physiology; and if any were so bold as to wish to have such knowledge, they were too modest to speak about it. Ellen and I were little girls together, and I remember she never played with her dolls as the rest of the girls did, in dressing and undressing them, but her children were always sick, and she was doctoring them. She was not a very successful physician, however, for her dollies always died, and then she would preach a funeral sermon over them. As she grew older, she used to go to her father's office when he was not there, and read his books. When he found it out, he forbade her going to his office, and said if the Lord had wanted her to be a doctor He would have made her a boy; and she said in reply that she didn't think the Lord showed very good sense to give her such a liking for medical studies if it was so very wrong for her to study them, and then she was punished for her irreverence. So she was educated like all the other girls, in the common branches and a few accomplishments; but after she was married she developed a marvelous talent for nursing, and used to be sent for far and wide, and the doctors all said that Mrs. Edson was worth more to the patient than the doctor himself. She got books, too, after she was married, and read a great deal, and really knew more than many of the M.D.'s of that time and place. She had quite a large family of girls; and I asked her one day what she would do if one of her daughters should want to study medicine as she did when she was a girl.

"'Do?' said she. 'Why, I'd give her every opportunity in my power, and bid her God-speed.'

"And so it turned out. Her eldest daughter, Mary, took to medicine, and after graduating at some fine school, went to a medical college, took a diploma, and now has a good practice in the West. Her second daughter had a theological turn of mind, and she is studying for the ministry, so that her talents *are* finding occupation now, are they not? I had not thought of it before in regard to the theological daughter, but I remember well the sermons Ellen used to preach over our poor dolls that died.

"Do you not, then, begin to see why we may have talents which we have no opportunity to cultivate, according to the generally received opinion of cultivation? We can always find some simple, perhaps, even, homely way of making them conduce to the happiness or well-being of ourselves and others, and thus we can pass them on to

the next generation unimpaired, and even to some extent improved by having been in our possession, and the world for all time is made the better for our having been entrusted with their keeping."

"Yes, Clara," said Mrs. Unruh, as she arose to take her departure. "I shall return home not one whit more satisfied than when I came in, but my dissatisfaction is changed. Then I found fault with every one but myself. Now I find fault with no one but myself, and for me now it is too late. Why is it that we can't learn our errors early enough in life to repair them?"

Mrs. Meadows smiled as she replied:

"You depart, Rachel, as you came, puzzling yourself over a 'Why?'"

MRS. CHILION B. ALLEN, M.D.

MOUNT HOR.

THE accompanying engraving represents that singular peak in Arabia-petrea, or "stony" Arabia, which is called by the above name. It is regarded as the tallest summit among the mountains of Seir or Edom. Its towering mass is a landmark to the wanderer in the desert of rolling sand, which occupies so large a portion of the country. Dr. Stephens writes:

"If I had not visited the top of Mount Sinai, I should think that nothing could exceed the desolation of the view from the summit of Mount Hor. Its most striking objects being the dreary and ragged mountains of Seir, bare and naked of trees, and ever heaving their lofty summits to the skies as if in the vain and fruitless effort to excel the mighty pile on the top of which the high-priest of Israel—Aaron—was buried." In the twentieth chapter of Numbers an account is given of that very interesting occurrence in the wanderings of the Israelites, after their escape from Egypt, as follows:

"And the children of Israel, even the whole congregation, journeyed from Kadesh, and came unto Mount Hor.

"And the Lord spake unto Moses and Aaron in Mount Hor, by the coast of the land of Edom, saying,

"Aaron shall be gathered unto his people: for he shall not enter into the land which I have given unto the children of Israel, because ye rebelled against my word at the water of Meribah.

"Take Aaron and Eleazar his son, and bring them up unto Mount Hor;

"And strip Aaron of his garments, and put them upon Eleazar his son; and Aaron shall be gathered unto his people, and shall die there.

"And Moses did as the Lord commanded; and they went up into Mount Hor in the sight of all the congregation.

"And Moses stripped Aaron of his garments, and put them upon Eleazar his son; and Aaron died there in the top of the mount: and Moses and Eleazar came down from the mount.

"And when all the congregation saw that Aaron was dead, they mourned for Aaron thirty days, even all the house of Israel."

The name "Hor" appears to have been anciently given to the whole mountain range of Seir. And when superseded by the latter designation, continued to be preserved, and applied to the particular summit on which that great leader of Israel died. The elevation of Mount Hor above the Mediterranean is said to be nearly five thousand feet. From it Mount Sinai is clearly distinguishable on the south, while the boundless desert expands before the observer on every side. The supposed tomb of Aaron is shown by Mohammedan priests who live in the vicinity, and is inclosed by a small modern building, with a cupola such as usually covers the remains of Moslem saints. The rock system of this mountain is peculiar—in some particulars reminding the traveler of the country in some regions of our Rocky Mountains, particularly in Colorado. It offers an interesting field for the study of the geologist. All travelers mention with admiration the beautiful and varied appearance of the valleys and cliffs of that mountain range.

It should be stated that two accounts are given in Scripture, concerning the death and burial of Aaron. In the passage from Numbers which has been quoted it is sta-

ted that Aaron died on Mount Hor, but in Deuteronomy we are told that Aaron died in Mosera and was buried there. This discrepancy has occasioned a deal of comment. Dr. Wells, however, explains this anomaly by attributing it to error in transcribing, as in the text of the Samaritan Bible, or what is regarded as the old Hebrew text, the passage in Deuteronomy agrees with that in Numbers.

MOUNT HOR.

"WHAT is your secret?" asked a lady of Turner, the painter. He replied, "I have no secret, madam, but hard work." Said Dr. Arnold, "The difference between one man and another is not so much in talent as in energy." What produces the energy, Doctor?

MY HOME KINDERGARTEN.

No. IV.

MY unvarying rule in teaching was that each bit of knowledge should be thoroughly mastered before passing to anything else; it saved time and insured thoroughness. Ralph, who came to us two years after Dora's birth, claimed a share of my time and thoughts, but as he was managed much as Dora had been, the only trouble was the added noise of the nursery and the demands of two upon my time.

When the study of arithmetic was commenced, the child had already learned to count objects, as beans, leaves, stones, etc., to the number of a hundred, and to make the figures representing these numbers; she could also add mentally considerable sums, having been taught by "littles," day after day, as a pastime.

Notation was quickly mastered; and when she could readily write numbers containing five places of figures, the principles of addition by "carrying" to the higher orders were taught, and ten examples for practice were given her each day, which were neatly written, added, and proved; for months she worked thus, then passed to the other fundamental rules until each was as thoroughly understood as a child can comprehend. It is lack of drill upon the elements that makes arithmetic so blind and intricate to most students. If each principle is comprehended and sufficient examples are performed to nail it down, it is learned forever, and serves as a stepping-stone to farther knowledge. In "denominate numbers" Dora weighed, measured, and counted different substances until thoroughly familiar with the whole process and meaning of reduction, and at thirteen years of age was an expert arithmetician.

The child was not allowed to undertake many branches of study at once; enough for a necessary variety, but not enough to distract and too greatly divide the attention. From five to seven years of age Dora learned the alphabet, to spell about a hundred words, and read fluently in words of one syllable; to tell quickly the notes upon the piano, to strike double notes and play the C scale, to draw straight lines, to distinguish colors and match shades, to name all common trees, shrubs, and flowers, to speak correctly, to sew quite neatly, and to observe accurately. From seven to nine years she learned to write quite neatly, to recite many pleasant poems and prose selections, to draw all possible combinations of short, straight lines, to read and spell words of two syllables, to run the major scales and play many exercises, besides a great amount of practical knowledge of vegetable, mineral, and animal productions, which can not be enumerated.

When nine years of age, Dora began arithmetic and composition, and her school-hours were increased to four. For themes in composition, my pupil took plants, trees, and houses; she would mention the parts of each and their uses; gradually she came to describe persons whom she knew, then she would write out in her own words incidents in the life of some individual, then simple stories, or letters describing her work, walks, and studies, and every day she wrote a list of words, nouns, adjectives, and verbs, that she might have them ready for use. I taught her to examine with care any object she described, and speak only of those prominent and peculiar points which would plainly define the object, leaving minor details to the imagination. I wished that the child should not make her descriptions tediously minute or prolix. The quality rather than the quantity of her writing was deemed of most importance.

Dora commenced no other branches until she was thirteen, then she spelled correctly, read well, wrote a neat hand, and drawing and music had become pastime to her; she was fully prepared to enter upon higher studies. She still read each day a short poem or prose article, dwelling upon any peculiar turn of expression, or new thought, also spelling unusual words, and writing a few lines for practice in chirography and composition, kept up the regular lessons in

music, drawing, and mental arithmetic, also commencing geography and grammar.

About this time I learned something of the science of mind as taught by Phrenology, and was gratified to know that my teachings had been in the right direction, cultivating first the perceptive faculties, deepening all impressions by repetition, training the affectional and moral nature in conjunction with the physical and intellectual in order to produce a full, well-rounded development of the whole nature. The classification of the faculties of the mind was of great use to me in understanding the mentality of my children, and showing me how to improve the qualities they had, and how to develop those of which only germs existed.

It did not seem necessary or wise that Dora should cumber her mind with all the details set down in modern geography. After learning the preliminary definitions, she passed to the study of the five great land divisions and the oceans, drawing maps of each until she could delineate them off-hand from memory, then she learned in the same manner their subdivisions, the great cities, the great rivers, ranges of mountains and volcanoes, then seas, bays, and islands; lastly she studied concerning the governments, religion, manners, and national peculiarities of each country. Then she read accounts of celebrated localities, descriptions of Niagara Falls, the Natural Bridge, Mammoth Cave, the Grotto of Antiparos, the Alhambra, the Pyramids, etc. This served to enliven and freshen her study, and she acquired in a year more real geographical knowledge than students usually gain in a half-dozen years.

The method of learning grammar which Dora pursued was simple yet thorough: first oral definitions of the parts of speech so perfectly comprehended that she could tell them at a glance, then knowledge of subject, predicate, and object, and the use and office of adjuncts, finally syntactical parsing, and acquaintance with "fine-print" notes; these last were made a particular object of study and thought, as in them all the subtleties and niceties of grammatical knowledge are collected. Rhetoric followed grammar, and was rendered a very fascinating study by the selection of fine poems, narratives, and essays illustrating different rhetorical points.

As French is the polite "court" language of nearly all nations, and as all who travel in Europe must understand it in order to enjoy and profit by a foreign tour, I thought it best Dora should acquire it, not that there seemed any certainty of her taking a foreign tour, but she might; there was abundant opportunity to learn, and it would be an elegant accomplishment; true, I sacrificed a new dress the year she commenced, a new bonnet the following season, but I did not over-value dress when the good of others weighed against it. Monsieur L. was engaged, for I would not trust myself, as time and disuse had dulled the edge of my French accent. During his lessons I remained in the room, attended carefully to his pronunciation, studied each lesson, and thus fitted myself to assist Dora and teach the younger children. Now at the close of her thirteenth year Dora's father called upon her to read aloud nearly every evening, and she read so clearly and with such excellent tone and emphasis that he preferred hearing her to reading himself. In addition to French, music, drawing, and composition, she studied algebra and rhetoric.

The other children were not neglected because I speak only of Dora. The methods described were so effectual in advancing and unfolding her mind that I pursued much the same with their education. Neither were social duties neglected. Wednesday afternoons and Thursday evenings were devoted to receiving friendly calls, Saturday afternoons to returning them. All household duties that recurred regularly had certain hours allotted to them; thus by mapping out my time, and taking care of our health, so we need not lose time or vigor by sickness, I did not experience the interruptions so many complain of who try teaching their own children, and often relinquish the attempt in despair of "finding time." Nobody will "find time" who seeks it in the careless manner so many order their lives, never having a certain time for the performance of fixed duties. The fashion many ladies have of receiving and paying calls

any and every day of the week is a means of wasting much time. Every lady should have set times of receiving and returning visits. There is too much of that soulless round of calling, where half the callers hope those they call upon may be out, and half who are out are glad they missed the visit. Every mistress of a house might have semi-monthly evening gatherings or receptions, when all with whom she exchanges calls should consider themselves privileged to come and spend an informal, social evening, where conversation, music, and quadrilles even are the amusements, and light, plain refreshments are placed upon a sideboard or table for any who chose to partake.

Cards should be banished; in themselves harmless, they have become so debased by association with thieves, drunkards, and gamblers, that anybody ought to feel almost insulted by their appearance in her presence. "Fancy" dances are indecent. Why should a man hold a lady in his arms, his embrace in a public gathering, in the dance, when the same thing, offered in a private parlor, would rightly be deemed an insult? Every one takes a mental coloring or taint from association; we should "beware even the appearance of evil." Many argue that these things being harmless in themselves can not be wrong if not abused. If not actually wrong, they have always been associated with the bad; none would adopt a style of dress or ornament that was notoriously the badge of the notoriously bad; why then adopt their amusements? Quadrille dancing is not objectionable; the young must have some sprightly amusement—active natures demand it; this is decorous and graceful, and at proper, healthful hours, may be indulged. But it may be said the taste for dancing once acquired will not stop here; true, if children are brought up as eye-servants, they will undoubtedly disregard your wishes and advice, but if they become thoroughly impressed with the truth that excess in dancing is immodest and wrong, they will avoid it as they avoid other wrong deeds.

Dora was endowed with a good constitution, and had enjoyed uniform good health. She was not obliged to intermit her studies while passing into womanhood. I watched her carefully, required only short lessons when it seemed best; for, regarding health as beyond price, I would not impose upon the unfolding maiden, tasks that would too much weary and perplex her. Mind and body are then in a transition state, from which they emerge either strengthened and improved or weakened and debilitated. The health, consequently the happiness and life of many young girls is often completely wrecked during this portion of their lives. If girls fully comprehended the danger to their health and beauty by careless exposure in "low-neck" dresses, light slippers, and gossamer stockings in the dead of winter, they would certainly be content to leave summer dress for summer days.

After Dora had finished algebra and rhetoric, she took up English literature, American history, geometry, and the sciences in the most careful, intelligent way, writing abstracts, biographies, and essays upon these various subjects, making them really and wholly her own by the thoroughness with which she studied and thought.

When Dora's nineteenth birth-day came it was celebrated by a birth-night festival, in which she was duly ushered into society. How charmingly she looked, smiled, and danced! I was almost proud of my darling. How much nearer was she to me and I to her, than most mothers and daughters. I had not only been to her all a mother generally is, but I had been beside companion, friend, teacher. Our minds and hearts were more closely united and understood by each other than they could have been under any other circumstances. "She is as good as beautiful," I whispered to myself when her floating figure moved in the dance. Dressed in a gleaming white fabric, with her brown curls upon her shoulders, and the soft color rising and fading as she moved or rested, the happy, innocent eyes turned again and again toward her parents. I had reason to think her beautiful. But other eyes than mine sought her face, looking after her, and a jealous pang shot through my heart at the thought, "She will learn to love some of those who are gathering round her, and I shall lose my flower, my loved one." I

almost wished I had kept her at her books; she was happy and content, but here there was danger. Leaving the parlors and the house, I sought refuge in the garden, but still the dancing-music smote upon my ear, while bitter tears coursed down my cheeks; my husband following, gently chid me. "Was it not the fate of all mothers to have their children turn to other loves? Did I not the same? Had I loved or honored parents less, that I had loved him more?" Somewhat calmed, I returned to the entertainment of our guests, but a shadow had fallen upon my heart. I clung to my daughter's love, trying by every means to wind myself deeper and deeper into her heart. I entered into the lists against that unknown one who should dispute with me my daughter's best affections. She was lovely in heart and mind as in features. Her affectional and moral nature had been as carefully trained as had her intellectual nature. She was kind, thoughtful of others' comfort and pleasure, ready to deny herself for others' good, sympathizing with the poor, the unhappy, and the wrong-doer, always mild, amiable, and tender-hearted, soft-voiced and sweet-mannered, who would not have felt a pang at the thought that lovely and loving as she was she was all the more susceptible to shipwreck from an ill marriage.

AMELIA V. PETIT.

Literature, Mental Science, and Education.

True philosophy is a revelation of the Divine will manifested in creation; it harmonizes with all truth, and can not with impunity be neglected.

JEAN L. E. MEISSONIER,

THE CELEBRATED FIGURE PAINTER.

YEARS ago the late Mr. A. T. Stewart, of New York, purchased a picture in Europe entitled "Eighteen Hundred and Seven," a battle piece, having for its leading feature Napoleon I. on horseback surrounded by his staff. The importation of that picture made no little stir in artistic circles on account of the very large price which the merchant-prince paid for it—upwards of $60,000. Of the painter of that picture, whose name stands at the head of this sketch, we have now somewhat to say. At first, however, with regard to his Phrenology.

The engraving, said to be a good likeness of the artist, shows a combination of the mental and motive temperaments, with a fair support from the vital. The mental temperament gives him clearness, the motive temperament imparts strength and intensity, while the vital temperament gives that sustaining power which enables the mind and the muscles to work with vigor toward any desired object. That portrait is full of character and talent. Positiveness is written all over it. Everything about that organization is endowed with emphasis; his every movement and word, all his thoughts and purposes are as positive as the clenched fist may be said to be as compared with the open hand.

The features are fine, yet strong. The great elevation of the nose, with its finely-cut outline, means earnestness, courage, enthusiasm, and that right-onwardness of spirit which goes from premise to conclu-

sion as straight and as quickly as possible. His very salutations are dogmatical; his persuasions are mandatory; his requests are commands; even his gentleness is so full of vigor and nervous earnestness that people submit to his suggestions rather than contend against his will. If he were dancing, his partner would feel compelled to conform to every motion of his; if he were walking, he would seem to be the master of the promenade. A horse driven by him, if it were a horse from the livery stable, accustomed to being driven by all sorts of men, would instantly recognize his authority and consent to work all day freely without the whip; would pick up his feet and put himself on his best behavior. There would be such an intimation to the sensitive, experienced horse that would teach him there was power behind him, and that obedience was the only law for that day.

The eye is full, sharp, dark, piercing; his perceptions are intense and clear; his power of expression in words is at once copious and terse; every sentence has grip, every statement is a conclusion. He would have made a fine linguist, and so have used language as a teacher that would have been fraught with meaning. He is almost too positive for a teacher, yet he would express so much and so clearly that his words would be very instructive. If he had been a dramatist instead of an artist, in another direction, he would doubtless have taken the highest rank.

He appreciates character; is a critic of a high order; detecting excellences or errors and flaws in everything that he comes in contact with. He has a high temper, yet rarely has a quarrel with those who are acquainted with him, because it is natural for those who know him to conciliate him. He molds and fashions whatever is around him to his own purposes and will, and people adapt themselves to him as water does to the ship which plows through it.

He is a man of courage, ambition, determination. His firmness and courage combined with his ambition would lead him to aspire to anything he desires. He is not the one to wait for an invitation, but pushes forward and onward with an independence which is sometimes regarded as audacious.

He does not appear to be wanting in respect for age and sacred subjects; has reverence for power and authority where he recognizes it as being superior to himself; but when moving among men whom he considers not his equals or superiors, he acts with a spirit of authority or of patronizing condescension — rarely as a co-equal. Among his equals he wishes to rise to a superior position; among inferiors he is willing they should feel the difference between himself and them. In the presence of those who in any respect are his superiors he is respectful and conciliating, unless they undertake to make him feel their power, and then he would confront sovereignty or ignore it. He is warm in his friendships, bitter in his hatred, earnest in his opposition, cordial in his support of what he believes to deserve it; in fact, he is sharp-cornered on every side, and is probably regarded erratic and singular. In his professional line and in every line he works according to his own plan and purpose; does not copy or conform, but absorbs what he likes and sends it out with his own sign-manual upon it.

As in oratory some men have a style of their own which defies many of the canons of criticism, yet because of its brilliancy and intensity enables them to win laurels everywhere, so in art a man organized like this will make his own style and command for it the respect of the world. In looking at that face and constitution, studying its temperament and quality, we think of steel springs and fiddle-strings—whatever has positiveness combined with elasticity. He is organized on the high-pressure system, and yet he is able to hold his power within his own control. He never loses his poise or the mastery of his position. The hammer and file of the blacksmith mold and fashion the dense yet malleable material on which they work; so some natures retain their own individualism and subordinate everything with which they come in contact, and that which can not be thus subjugated they avoid. Consequently, wherever they work they make their mark. Lord Wellington, Carlyle, and Edwin Forrest, though differing in the line of their thoughts as widely as possible, had each this characteristic—force, positiveness, individualism—and though perhaps not great in all respects, not full-orbed and complete, yet were so positive as to make a mark in history and command the respect and the memory of mankind.

JEAN LOUIS ERNEST MEISSONIER was born in Lyons, France, in 1811 or 1813—the precise date not being known, it seems, as authorities differ. He commenced the study of art early in life, having shown a decided predilection for it; was sent to Paris for the purpose, and there received instruction from M. Leon Colmiet and others. In 1836 he exhibited a picture entitled "Little Messenger," which drew attention to his pecu-

liar characteristics as a painter. Devoting himself to one class of treatment he has become perhaps the most popular and the best paid of living French painters, and is said to have done more than any other artist for the maintenance or rather preëminence of the *genre* school. Comparatively few of his works have been brought to this country, except, however, in engraving or photograph. His most characteristic features are smallness of canvas and great delicacy and finish in execution. The artist's own claims to fame rest upon the fineness or closeness of his observation and his manual skill, and so uncommon are these qualities, and so high the degree of excellence to which he has brought them, that he stands unrivaled in his own department among the painters of the world.

His canvases rarely exceed twenty inches square—even where numerous figures make up a group. His figures are portraits faithful to life. It is said that his fidelity in this respect was attained from the habit of sketching the subjects life-size first. Among his best known pictures are "The Chess Players," "The Reader," "A Game of Piquet," "The Painter in his Studio," "The Skittle Players," "The Body-guard," and "The Reading at Diderot's." Some historical works have been wrought out by him, to wit: "The Emperor at Solferino;" "The Charge of Cavalry," which was sold for something like $30,000 and is now owned by a gentleman of Cincinnati; "A Barricade, June, 1848;" "Eighteen Hundred and Seven," which was purchased by Mr. Stewart, had been sold while in an unfinished condition to an Englishman for two hundred thousand francs, but on the offer of a hundred thousand francs more by Mr. Stewart's agent, Meissonier sold the subject again, but is said to regret the transaction—not so much on the score of its irregularity as that in his opinion it was taken to a country where there is little appreciation for the high grades of art. It is said that at the sale of a part of Mr. Stewart's collection, which occurred soon after his death, "1807" was secured by an English purchaser.

Meissonier has designed for several publications, notably, Balzac's "Comedie Humaine" and "Paul and Virginia." In 1846 he was made a knight of the Legion of Honor, in 1863 a member of the French Institute, and has also been honored by several decorations of a character very highly esteemed in Europe, and which are the gifts of royalty. It is said that notwithstanding his great pecuniary success and renown, Meissonier exhibits a keen jealousy of his competitors in art, and even resorts to very questionable methods for their subordination. His friends and pupils never ask him his opinion respecting any other painter. The artists of France as a class are esteemed for courtesy and complaisance, but M. Meissonier is an exception to the rule; many incidents being related of his rudeness and even insolence.

SOME EXPERIMENTS IN MAGNETISM.

WHEN first the PHRENOLOGICAL JOURNAL began to convey to the minds of the general public its strong practical truths and significant suggestions, it aroused in country towns and villages an interest that led to experiments, the results of which were valuable for their trustworthy character.

The JOURNAL gave to the inhabitants of many rural districts their first definite idea of the nature of mesmerism, psychology, etc., and, "for the fun of the thing," experiments were tried, which often resulted in phenomena strange and startling, which students and thinkers found themselves puzzled to explain. Facts of Phrenology were often demonstrated in a manner which forever set at rest all doubts of their truth in the mind of every candid observer.

A gentleman now living in New York city, but formerly a resident of Granville, Washington Co., N. Y., instituted a series of experiments in what was called mesmerism. He discovered that he had strong magnetic power of his own, and he was careful in the selection of subjects. He un-

dertook nothing of the kind except in his own house or in the houses of personal friends, and being a man of unquestioned veracity, a good deal of interest was for the time aroused by his investigations, which continued from the year 1848 until 1852, and perhaps later. One of his first subjects was a man of strong and well-developed physique, tall and straight, with fair complexion, light eyes, and sandy hair. This gentleman was well known among his friends as a great lover of mirth and sharp at repartee. He had no confidence in the power of any man "to put *him* to sleep." The operator soon discovered, however, that he was a good subject and could be readily controlled. He was first made to perform various antics by the exercise of will. Next the operator excited different organs of the subject's brain by rubbing his fingers over them, and the response was directly manifest by his becoming excessively devotional, affectionate, or combative, as the case might be.

The skeptic, even at this late day, is wont to exclaim: "Oh, it was but the operator's mind; specific organs had nothing to do with it. As the operator *willed*, so the subject performed." True! it was as he willed, and as he did not will also, for in attempting to excite the organ of Secretiveness, the operator once made a mistake and rubbed his fingers over Combativeness, when instantly the subject, with clenched fist, drew back his arm for a blow, which was only averted by the operator's arousing his own will power in time to stop the arm, which he did, leaving the man in a fierce, pugnacious attitude, but unable to move. When brought back to his normal condition the gentleman would not believe that he had been unconscious or that he had been performing the feats which were ascribed to him; he again asserted that no man could put *him* into a mesmeric sleep.

In order to convince him, and perhaps with a little desire to return some of the many practical jokes which he was wont to play upon his friends, the operator invited him to a test in a parlor filled with their mutual friends. A few moments sufficed to render him oblivious to everything except the will of the magnetizer, who then told him that he was in a flood of water, and that there was no escape for him but to swim. At once he placed himself in a swimming attitude on the parlor carpet, and while he was going through with what seemed to be a powerful physical effort, with his limbs extended and with panting breath, he was brought to consciousness amid roars of laughter, and in a position which nothing would, voluntarily, have induced him to assume. He would never again allow himself to become magnetized.

The next subject of this experimenter was a young girl, a member of his own family, and one in whose truthfulness he could place perfect confidence. The results varied little from the former, being confined mostly to the phrenological tests. At one time he made the same mistake in his endeavor to excite Secretiveness which he had made with the former subject by carelessly passing his fingers across Combativeness instead, when instantly she leveled a blow at his head which he was not quick enough to escape. He aroused the action of Tune in the same way, when his intention was to excite some other organ, and though in her normal condition she never sang, she now at once essayed a song. At several different times he aroused the action of Philoprogenitiveness, and the effort she would make to pet or caress some object, and the maternal character of her movements, left no doubt in the minds of those present as to the accuracy of the location of that organ as laid down in the received scheme.

About this time or a little later people became much interested in the lectures of Dr. Lewis, a colored gentleman (afterward professor in a college at Edinburgh, Scotland), who passed through the country. His themes were Phrenology and Magnetism. He had a very strong magnetic power, often bringing a large portion of his audience under control during his lecture. A meeting was arranged between these two strong magnetists, but no results followed except that each could for a time see rings of light around the eyes of the other. The lectures of Dr. Lewis, however, gave a new impetus to investigation, and in every village store

or other place where men gathered, no question was more common than, "Had your head examined?" or, "What do you think of this magnetizing business?" and everybody wanted to go to New York and have their heads examined. To-day may be found in many homes, put away among old choice papers, charts that were given by the "Fowlers" during those few years of excitement upon these themes.

Soon after the visit of Dr. Lewis, the operator before mentioned instituted some experiments in the home of his uncle, Mr. Allen Gifford, who lived some forty miles south of Granville, in the town of Easton. This gentleman had a family of grown sons who, like himself, were men of intelligence and integrity. In their family was an Irishman by the name of Timothy, and their efforts proved him to be a remarkable subject. At first, when he had once yielded to the spell, he was perfectly rigid, could neither move nor speak. The operator made a few passes upward, which relaxed the muscles, and he was then found able to respond to questions. He was in a profound mesmeric sleep, but would go wheresoever the magnetizer directed. He sent him to his old home in Ireland, but the poor fellow seemed very unhappy to find himself back in that famine-stricken country. He talked with his mother, asking her questions, and repeating what he said were her replies.

Perhaps nothing in the history of this science is more remarkable than the sequel of this experiment, for upon that very night that mother saw her son Timothy and talked with him, the conversation corresponding with the notes made by this experimenter at the time. This is proven from the fact that a letter written by her directly after was received by a friend of Timotny, in which she makes the statement, and asking if Timothy was dead, for she could in no other way interpret the strange visit of her son.

Upon that same evening another visit into the privacy of an Irish home was made. Mike was a man employed in the family of the operator forty miles away; he had never been in the town of Easton, nor had Timothy ever been in Granville; yet Timothy, upon being requested, went to the home of Mike's mother in Kilkenny, and in answer to questions, told who were there, asserting positively that there were two sisters living and that a third was lying a corpse in the house. This statement could not be credited, for Mike had often spoken to his employer of two sisters, but never of a third. Timothy, however, was fixed, and they could not induce him to change the statement. Again, he exclaimed that they had just received a pile of money, and that they must be very careful or they would lose it. Over and over he seemed to enjoin it upon them to let no one know they had the money or they would lose it. The experimenter knew that Mike had just sent home twelve pounds, but did not suppose it had yet reached its destination. So he inquired how much money had they? "Twelve pounds," said Tim. Now the sequel to this also presents a puzzle. For it was afterward ascertained that upon that night the money was received, and upon that night an adopted daughter of the old lady was lying dead in the house. And more than this, the priest learned of the arrival of this sum of money and took nearly all from them, it was alleged, for some debt.

Now what power in the human mind enabled this ignorant man to present himself to his mother, or to converse with strangers thousands of miles away, read their secrets, and *foretell* the fate of their money? Verily, facts are stranger than fiction.

MRS. HELEN M. SLOCUM.

HOW ONE'S PEN TRAVELS.—Some one has been calculating the length of line a writer makes upon his paper, and gives us these interesting results:

A rapid penman can write thirty words in a minute. To do this he must draw his pen through the space of a rod, 16½ feet. In forty minutes his pen travels a furlong. We make on an average sixteen curves or turns of the pen in writing each word. Writing thirty words in a minute, we must make 480 to each minute; in an hour, 28,800; in a day of only five hours 144,000;

and in a year of 300 days, 43,200,000. The man who made 1,000,000 strokes with his pen in a month was not at all remarkable. Many men, newspaper writers, for instance, make 4,000,000. Here we have, in the aggregate, a mark of 300 miles long to be traced on paper by such a writer in a year. In making each letter of the ordinary alphabet we must make from three to seven turns of the pen, or an average of three and a half to four. Perhaps some equally ingenious person will next inform us how much ink a journalist can save by not dotting his "i's."

THE YOUTHFUL HEART.

Ah! the shadows come and go,
Smiling Yes, and frowning No.
Hark! the whispers, soft and low,
Round the youthful heart!

Wonder, with great eyes, is there;
Hope, with laughing, careless air,
But no withering, gnawing care,
Near the youthful heart!

Love, with every dimpled smile;
Love, with every cunning wile;
Love, who loiters all the while,
With the youthful heart!

Curious, stretching out in space,
Blending mystery with grace.
Ah! what future thou wouldst trace,
Throbbing, youthful heart!

Musings pensive, soft and mild;
Actions often grand or wild,
When by sordid thoughts beguiled,
Is the youthful heart?

Ah! the Gods are ever young!
So the ancient poets sung.
Choicest gifts on earth they flung
For the youthful heart!

GRACE H. HORR.

RUSSIAN LOSSES IN THE LATE WAR.—We have it from official returns that the Russian losses in killed and wounded during the late war amount to 89,304 officers and men. Among these were 10 generals killed and 11 wounded. One Prince of the Imperial family, and 34 members of the higher nobility of Russia fell on the field of battle. Of the wounded, 36,824 are perfectly recovered, and 10,000 more will, it is expected, be able to leave the hospitals during the next few weeks; 121 men were prisoners in the hands of the Turks when the armistice was concluded. The proportion of killed and wounded to the total number engaged was very large; one out of every six men who went into action being either injured or left dead on the field of battle. In the great actions of the late Franco-German war the proportion of killed and wounded to men engaged was very nearly the same: being one-sixth in the battles of Wörth and Spicheren, and one-eighth in the battle of Vionville or Mars-le-Tour. At Gravelotte the proportion was only one-eleventh, and at Weissenberg one-twelfth. In some of the earlier battles of the present century, however, the losses were far heavier in proportion to the numbers engaged; amounting to one-third of the entire forces engaged at Salamanca, Borodino, and Eylau, to one-fourth at Marengo, and to one-fifth at Friedland. Further, the returns show that one out of every el ven wounded men received into the Russian hospitals died from the effects of the injuries received.

During the whole campaign, it is added, only two men were punished with death: one for the crime of desertion, the other for robbery, accompanied with violence. On the other hand, 20,000 rewards were given in the form of decorations, promotions, or awards of money, the 8th corps, which so long held and defended the Schipka Pass, receiving the greatest proportion.

LYING FALLOW.

THE following is a literal report of a conversation, taken down stenographically, between two ladies; both of them intellectually above the average, wide awake, and one a literary woman:

"Oh, Mrs. Hill! how comfortable you look! I wish I could find time to lounge as you do."

"Well, there is another couch, Mrs. Vale, and I should be delighted to have you spend the morning with me"

"Oh, you're very kind! but I have run over now in a great hurry to see if you will be kind enough to loan me the pattern of your new wrapper. I have a dress-maker."

"Mary"—this to a servant dusting the bureau—"open the lower drawer and give Mrs. Vale the package marked 2." Mary produced it.

"You don't seem to have as much writing to do as you used, Mrs. Hill."

"Oh, yes! quite as much."

"Are you ill, then?"

"Never was better in my life. I am simply lazy."

"I don't write, to be sure; but if I should lie down in the forenoon I should expect everything to go to destruction. I don't find any time to be lazy."

"I *make* time for that especial purpose, calculating as much for the idle hours as the busy ones."

"But don't you constantly feel as if you ought to be at work?"

"Not at all. I feel I ought to be indolent because I *want* to be indolent."

"That is a very pleasant theory, surely; but what if my husband, instead of going to his business in the morning, should say, 'I think I won't go to work, to-day. I feel like being lazy'?"

"It might mean temporary disaster to your husband's affairs, because he had not previously made arrangements for such relaxation. A half hour spent in preparing for the rest he stands so much in need of, would enable him to take it; and an occasional day of uninterrupted quiet and freedom from the strain of business would give him firmer muscles, better digestion, and, my dear Mrs Vale, a longer life."

"Why, if my husband is obliged to stay home from the office a single day on account of illness, he is the most nervous man you can imagine. He knows things won't go on properly. Why, I'd rather take care of a whole orphan asylum than him at such times."

"Precisely. Your husband has made himself a pivot round which the complicated machinery of his business must revolve. Possessed with the idea that no one else can do his work or take his place in an emergency, it is quite natural he should be nervous; but, Mrs. Vale, this nervous apprehension is entirely the result of your husband's egotism."

"What! You are quite mistaken. Mr.

Vale hasn't sufficient self-esteem to keep him comfortable."

"Except in his business. There he is the all-competent and the all-powerful. Had your husband begun by training his clerks and subordinates to assume the responsibilities belonging to their several positions, his routine labor—that which wears the nerves and undermines the brain—would have been materially simplified. Now he is the frictional part of the machinery. Like two-thirds of our business men—yes, seven-eighths—he's a bundle of screws, levers, over-shot wheels, valves, clamps, stocks, briefs, red tape, and a million other things representing care and nerve drain. Do you know how common that dreadful disease, softening of the brain, is becoming among business men? It is attributable to no other fact than the ones I have just mentioned, and can be summed up in two words, nerve tapping."

"What is the remedy?"

"Education. I teach my children to be industrious, and I also instruct them how to be restful, or lazy, as my neighbors would doubtless call it. If business men could be made to see the error of their ways, and induced to turn round and begin anew, not only would *they* reap the physical and spiritual benefits, but their children and grandchildren would step into an inheritance of nerves which would redeem the race. I mean, my dear Mrs. Vale, if the mothers of the race do their part also."

"Oh, dear! It is so hard to tell what one's duty really is. I don't see how I could possibly shirk one bit of my work or do a stroke less. You talk about making time to be lazy. I infer from that, that you have finished your engagements and have no especial literary work for to-day."

"On the contrary, I have an unpostponable engagement. It is now eleven o'clock, and by to-morrow morning at eight I must have at least two columns of matter ready for the printer. After you go I shall doubtless sleep till lunch time, for I am in the extreme of laziness to-day. After lunch I shall read Dickens and laugh till my oatmeal is digested. Then I shall take a bath, and if my matter is not safely tucked into an envelope by dinner-time, I shall be greatly mistaken."

"What will you do this evening?"

"Play some game with my husband or read aloud to him while he lounges, or entertain company or something equally agreeable."

"When do you darn your stockings?"

"That don't belong to my department. My chambermaid is perfectly trained to all such work."

"When do you make your cake and fine pastry?"

"Never, unless I am expecting a guest addicted to such stuff. Then I do my best to give her what she's accustomed to."

"But why, if you think such things injurious, do you not make a stand against them, and give your guest what you think would be good for her?"

"Possibly, because I haven't sufficient moral courage, and possibly because it is easier to make a lemon meringue or a rich cake than to preach to my guest with the probability of being entirely misunderstood."

"You will pardon me, I hope, but I'm trying to discover where you get so much time for recuperation. Your children are always well dressed, and you all look as if you had enough to eat. Now, it honestly takes me all my time to make, mend, pick up, and cook."

"And yet you have two servants!"

"Yes."

"Then it is your own fault."

"Will you be kind enough to tell me your ordinary bill of fare? I do not mean this as an impertinence, but just to see where the difference lies."

"This morning we had for breakfast a sirloin steak, roast potatoes, boiled hominy, and milk. This noon we eat oatmeal and milk, perhaps some bread and butter. For dinner we are to have boiled mutton with egg sauce, potatoes, peas, with bread and butter, and apple and quince marmalade, and plenty of milk for the children."

"And dessert?"

"No dessert."

"We are to have vermicelli soup, roast beef, chicken salad, oyster patties, batter pudding, and cream meringue. It will take

me at least two hours this afternoon to do my part of the work in the kitchen. And you will have nothing to do there?"

"Absolutely nothing; and with all the added expense, and added labor of your most elaborate dinner, I wouldn't change my plain and inexpensive one for a dozen such."

"What would you advise me to do?"

"Whatever seemeth to you wisest and most desirable. You began elaborately. I began plainly, first for hygienic reasons, next for economical ones, the economy both of time and money. I want to live and be a comfort to my husband and children, and I want them to live to be a comfort to each other and to me. No other way of living would accomplish this, therefore a plain table and plain clothes, and plenty of time to lie fallow." ELEANOR KIRK.

AGUE-AND-FEVER.

PATHOLOGY—CAUSES—TREATMENT.

INQUIRY has been made lately with regard to the nature and treatment of what is commonly termed "fever and ague." In some districts the disorder is simply "chills." As the ague usually precedes the fever, it is properly named "ague-and-fever." This disorder is so prevalent in the United States, particularly in the South and West, that nearly every one who has arrived at years of discretion knows something of its symptoms and of the mode of treatment in vogue with physicians who use drugs. Briefly, then, we will say that ague-and-fever belongs to the intermittent class of fevers. "Intermittent," because the attack appears at certain times—it may be every day, or every second day or third day—and names are given by medicists which distinguish the different types, according to the recurrence of the fever. If the attack be renewed once in twenty-four hours, it is termed *quotidian;* if it appear at intervals of forty-eight hours, it is termed *tertian;* and if at intervals of seventy-two hours, *quartan*. The most common of these types is the tertian; the subject expecting his "chill" about noon of alternate days. There is scarcely any disease of which the phenomena are more definite and similar. The first symptom which heralds its approach is a creeping chilliness along the spine, with a sense of languor or fatigue, then the countenance becomes pale, the cheeks sink in, the nails assume a livid or blue hue, the temperature of the skin falls, and a feeling of great coldness supervenes, with shiverings and rigor, during which the teeth will even chatter. These symptoms may be accompanied by nausea at the stomach, a sense of oppression at the heart and lungs, but these last symptoms are related chiefly to cases of long standing, and then, particularly, the patient complains of heaviness and pain in the head and temples, of an aching back, and a disagreeable taste in the mouth. The tongue is usually white and more or less coated with morbid secretions. Sometimes there is vomiting, which tends to shorten the chill period. If the pulse be examined it will be found constricted, small, weak, and accelerated. The patient also feels dull; mentally lacking the disposition to talk or think.

This condition having lasted from half an hour to two hours—in rare cases it may occupy even four—the next stage or *fever* begins with flashes of heat alternating with rigors. The temperature of the skin begins rapidly to rise, accompanied with congestion and flushing of the face and a sharp headache, with throbbing temples as an accompaniment. The pulse becomes strong and full, and now the hot stage is fairly developed, which may last two or three hours or more. The appearance of perspiration on the forehead and breast announces the termination of the fever. It extends rapidly over the whole body and becomes profuse. Now the headache subsides and all the previous symptoms disappear. The bodily functions appear to resume their wonted tone and a sense of exhaustion only remains, which may be in a great part removed by a period of sleep, into which the

patient often falls. The duration of the attack is from four to sixteen hours; it commonly lasts about six.

Agues of the tertian and quotidian types are most prevalent in spring; adults of a bilious temperament being the most subject to them. The quartan type is most prevalent in the fall, and appears more frequently in young persons and women—those with strongly-marked vital or lymphatic temperaments. The tertian is the mildest and most amenable to treatment; sometimes disappearing of itself, particularly on the approach of winter. A quartan ague is tenacious, and is removed with difficulty, particularly if the attacks occur in the autumn, and then it is likely to continue till the following spring.

These types are convertible—one running into another—and may lead to sub-types termed "irregular" and "complicated," which are more difficult to cure, as they indicate degeneration on the part of the organs, to the disturbance of which the disease was originally due. When long periods occur between the attacks, the patient has a good prospect for recovery; but if during them he complain of debility, heaviness of head, coldness, want of appetite, etc., it is almost certain that the formative stage of the fever is still present—or, in other words, the condition of his system is favorable to the continuance of the disease.

There is one form of ague-and-fever, known chiefly in the South and called dumb-ague, which is an imperfectly-developed type of intermittent, and leads to unfortunate constitutional results if it be not checked by proper treatment. In general, however, the subject of the "chills"—whether the attacks be every day or alternate days or every third day—becomes weaker, loses flesh, and acquires a complexion of a sallow hue. There may in time ensue obstructions and enlargements in the visceral organs. In this country enlargements of the spleen and liver, with loss of stomach power, are common as the resultants of protracted subjection to the disease.

Intermittent fever can seldom continue long, even if it be of the mildest form, without considerably impairing the vital energy and the vascular tone of the viscera—those of the abdomen especially, hence out of it comes complications which may result in remittent or continuous fevers, more or less inflammation and structural change, dropsical effusion, dysentery, diarrhœa, congestion of the liver, lungs, and heart, and even rupture of the spleen. At the outset, however, ague-and-fever is related to functional disorder of the liver and spleen; those organs failing to perform their office normally, occasion derangement in the circulatory and glandular apparatus.

CAUSES.

A word now as to the causes of this disease. We find that it is the most prevalent in miasmatic localities, new regions of country, low, damp, marshy neighborhoods, where there is dense foliage, decomposing vegetation, stagnant water. The best authorities attribute to atmospheric malaria its exciting cause, but there are predisposing causes, such as improprieties in diet and life: in the great majority of cases the system has been rendered susceptible to malarious impressions, and a consequent production of the disease by irregularity of habit. The eating of food which tends to impair the digestion, render the liver torpid, and interrupt the activity of the assimilative function, conduces to the appearance of intermittent fever. We have known persons to live in malarious neighborhoods without suffering a single attack. They were careful in their diet, ate nourishing food, avoided crowding their stomachs, dressed in such a way as to promote the free action of the skin and thorough circulation, avoided exposure to the dampness of early morning and night; kept their nervous system quiet, exercised a good deal during the day in vocations of an out-door nature, without overworking, and so found health and enjoyment where their neighbors appeared to find only sickness and discontent.

TREATMENT.

The older methods of treatment include diaphoretics and warm fomentations in the cold stage, and refrigerants in the warm; blood-letting, emetics, mustard poultices,

opium, turpentine, quinine, calomel, camphor, ammonia, arsenic, etc. Quinine is very extensively used to-day, and is regarded by a large class of practitioners as specific. Some physicians of the old school, however, condemn it as productive of constitutional derangement, even more serious than intermittent fever itself. The best remedial agencies are water and hygiene. Stoll many years ago recommended hot fomentations, among other things, for the cold stage, and cold applications in the hot, in which respects he was correct. It is of primary importance that the diet of a patient should have a special regard to nutrition and ready digestion, nothing being eaten which naturally tends to obstruct the excretory ducts. Fruit, fresh or cooked plainly, is found to be conducive to good effects in this respect. All stimulating drinks, and food which serves to heat the blood or disturb the circulation or irritate the brain and nervous system, should be carefully avoided. Comparatively little or no flesh meat should be eaten during the time of treatment. The bowels should be well cleansed, enemas of tepid water being taken where there is constipation, nausea, or bitterness in the mouth; an occasional warm-water emetic is beneficial at any stage, while a daily towel bath with water at a temperature of about sixty-five degrees, followed by a brisk rub from head to foot, will stimulate the action of the skin, and distribute the circulation. When the attack comes on, and in the cold stage, warm water of about a hundred degrees should be applied freely to the trunk and feet, and during the hot or fever stage, water of about sixty or sixty-five degrees should be abundantly poured upon the body—the head, however, being wrapped in cloths wrung out of cold water to reduce the congestion and headache. For the convenient application of water in the treatment of this disorder, we know no more convenient apparatus than the Fever-cot which has been described in these pages. In fact it is specially adapted to bathing purposes, being so constructed that water may be applied to any part freely without occasioning the discomfort and trouble of wet bed-clothes, and water dripping at different points upon the floor.

This cot is now used in several hospitals and private houses, and is very warmly commended by physicians. The patient should be removed from a malarious quarter; should exercise a little daily in the open air, but be discreet in the use of his strength, reserving for the use of lungs, liver, heart, etc., the larger share of his physical vigor, that they may be well supported in their efforts to acquire their normal tone and vigor.

LOW BEDSTEADS.

"THE higher you get, the purer the air;" so says an eminent scientist and physician.

Upon what principle, then, of hygiene or humanity are constructed the low modern bedsteads? Not that we would see in their place the unwieldy four-posters of our grandmothers' times — stepladders would then become indispensable; but a good sensible height, say two and a half feet from the floor, where one can breathe something beside the impurities just above the floor, especially if it be carpeted with a woolen one, which should never be found in sleeping rooms, matting or hemp being far preferable, with, in winter, a warm rug at the bedside.

If not for health's sake, for humanity's, I would that all these low modern affairs were replaced with higher ones; that those long-suffering creatures, nurses, might not have their lives shortened, as their bodies have to be, with the bending down and lifting of their charges. For the sick themselves I feel stifled, as I see them "low-lying," boarded in all around, in a fashionable bedstead.

It would seem that all informed upon the benefits of pure air in sleeping rooms need not be told how these bedsteads hold, in the embrace of high head, foot, and side boards, the impure emanations of the body.

A few years ago, a neighbor of mine died of consumption on one of these beds. She

had for nurse a younger sister, a tall, slender girl, and as I watched the painful efforts of that devoted sister, to give ease to the sick one, the bending of her poor aching back nearly to the floor, in giving medicines or adjusting pillows, until at last she had to go down upon her knees a half hour at a time, to bathe and minister to the wasting one, I felt like anathematizing the bedstead and the maker thereof. Though the most patient of nurses, that poor girl admitted to me that her two months of nursing had seemed to take years out of her life.

While the sick are ever with us, and the hard duties of nurses indispensable, *ought* we not to see that those duties are made as easy as possible? Why sneer, oh men, at the stupid fashion of "pull-back" dresses, when you manufacture such *pull-down* bedsteads?

Then there are the poor chambermaids of our large hotels and boarding-houses. Think of the weariness, after mounting flights of stairs, of bending to the making of dozens of beds just above the floor. These chambermaids are humble individuals; the great world in its search for large fields for its charitable operations may almost scorn such humble affairs, none the less are they God's suffering children that it is some one's duty to look after. Let it be mine to speak a word for "the least" of them.

How this generation declaims against the old-fashioned trundle-beds. And they were "black holes" of Calcutta in impurity. But what have we gained but trundle-beds for adults as well as children?

Delicately-painted chestnut and maple, massive black walnut ones, with headboards like Monadnock towering aloft. Oh, the gloomy things down under the windows; why, I would not exchange my simple cottage bedstead with low open-railed head and foot boards, from which on waking I can look out over hill and valley, and in which sleeping is made healthful and waking glorious, for any price. Why, that outside view is worth all the painted landscapes on the foot-boards of all the modern bedsteads in use.

Now, dear friends, manufacturers of these things, who may have your stores packed with them, don't scowl! Can't you raise their bottoms, and so send out upon the community something less injurious, something less painted and trimmed, if it must be, but more healthful? Think of your poorer brethren and their burdens, and seek to lift their bedsteads and burdens a little.

COUSIN CONSTANCE.

MEDICAL SCHOLARSHIP.

A MOVEMENT has been under way for some time which has our cordial assent, and doubtless that of the community at large. We allude to the effort on the part of leading physicians to improve the tone and character of the medical profession in the United States by insisting upon a higher grade of scholarship in the applicant for admission to the medical schools, and a more extended and thorough study of the different branches constituting a medical course, than has been the custom to require as conditions for a degree and license. In no department of affairs connected with every-day life is there more need of reform than in the medical. So easy has been the method of obtaining a diploma from chartered institutions, that hundreds of untrained and avaricious men have obtained authority to practice their ignorance and quackery upon the public, and with impunity torture and poison the unfortunate ones who seek help and health at their hands. It is strange that the public did not rise in its might long ago and demand justice in the punishment of the knaves who not only trifle with the lives of people, but do it brazenly, and with the assistance even of newspaper publishers.

The American Academy of Medicine demands as a requisite to membership into its order, that the applicant shall have had six years collegiate or academic training and three years of study under proper medical

guidance. Harvard University, appreciative of the want of competent physicians, has raised its standard of requirements for graduating, and other institutions have followed, or will soon follow, Harvard's lead. With a better knowledge of their business, which includes, of course, all valuable sanitary methods, physicians will give more satisfaction to their patients, and the profession at large will soon recover its lost ground in the confidence of the public.

MRS. BODKINSON'S DAUGHTER JANE'S BABY.

"Why, how do ye do, Mrs. Potter, I'm glad you have called to-day;
I'm awfully tickled to see you—Come in, and sit down, I pray.
I went, as you know, on a visit, to stay for a month with Jane,
She lives in the city of Portland, 'way down in the State of Maine.

"She's got a wee chunk of a baby—a girl, you must know, at that;
The dear little innocent darlin'—I never saw one so fat.
But take off your things, and I'll tell you the whole of their goings on;
They treated me just like a stranger, and Jane, she was worse than John.

"From six in the mornin' I traveled until it was nearly five;
They jolted me so that I reckoned I'd never come out alive;
And little I thought, as I journeyed, my visit would fruitless be,
Or that I was goin' to Portland such ignorant folks to see.

"I went with my heart overflowin' with love for the little dear,
And took it some cakes and some candies I'd bought before leaving here.
Of course, I was met at the depot by John, in his snow-white vest,
And Jane, too, I found, on the door-step, all smiles, in a cashmere dressed.

"Soon as the greetin' was over, I asked for my darlin' pet,
And Jane, goin' into the bedroom, says, 'Mother, she's sleepin' yet.'
Says I, 'I am goin' to kiss her—that's why I come all this way.'
Says Jane, 'I am sorry you can not—to-morrow I guess you may.'

"'O pshaw!' says I, and determined to kiss the little one—when
Her husband came into the room, with more airs than a dozen men.
Says he, 'You had better retire, and leave the dear child to sleep,
That baby must not be disturbed! is a rule we try to keep.'

"The rest of the evenin' passed slowly, though John did the best he could
To make things nice-like and pleasant—but 'twasn't a bit of good;
I wouldn't quite swallow such treatment, and so I told John and Jane.
Why, gracious! when she was a baby I've took her up time and again.

"I'd only to hum a low ditty, while time with the cradle I'd keep,
And that, or a spoonful of syrup, was sure to send her to sleep.
But they, law! they aint got a cradle, and John thinks it's awful smart;
And Jane, with a little conceited grin, just up and takes his part.

"When the next night come, what fine doin's! Says I, 'Why, for mercy's sake!
You never undress the dear child, and put it to bed awake?'
But Jane, with a smile most provokin', says she, 'It's our reg'lar rule.'
Says I, 'You're a hard-hearted creature, and act like a stupid fool.'

"'Why, mother!' says she, 'mayn't we bring up our babe in the way that's best?
It only wants nourishment, exercise, water, and air and rest.'
Did ever you hear all your life through, such a monstrous speech as that?
It struck me all in a heap. One would think they were rearin' a cat.

"And what do you think every mornin' that poor little thing went through?
'Twas bathed all over in water! 'twould have killed either me or you.
And as for the cakes and the candies I took for my own grandchild,
They actually said it was trash which all babies should be denied.

"I've tried, but no use, to account for their doin's, so odd and queer;
But of one thing I'm quite certain, that baby won't live a year.
A week in their house was enough; it showed me their goin's on;
I was afraid that somethin' would happen; they'll be sorry—that Jane and John."

THOS. R. THOMPSON.

NOTES IN SCIENCE AND AGRICULTURE.

The English Scientists and PHRENOLOGY.—The *Daily Chronicle* of London has the following paragraph among its reports for June 21st:

"Last night a meeting of the Psychological Society was held at the Hall, Chandos Street; Mr. Serjeant Cox in the chair. Mr. Coffin resumed the debate on the paper by Mr. Serjeant Cox, entitled 'The Theory of Phrenology,' delivered at a former meeting. He said that there could be no doubt as to the brain being the seat of the soul, and it was connected largely with the phenomena of the senses. It was often said that the heart was the seat of the tender impulses of nature, in the same way as it was held in former times that some of the feelings were secreted in the intestines. Consciousness and the mind could not be examined, because they could not retain them in the body when it underwent examination, and after life, these two processes of thought disappeared. It was often asked whether consciousness was a mere function of the nervous substances of the brain, or whether it was some independent substance that was only known through the action of the brain. It was an old idea that all the thoughts were mixed up together in the brain; but that supposition was now dispelled, as our feelings were materially acted upon by the nervous system. Phrenology was supposed by some to be opposed to medical and anatomical observation; but that was not the case, as the new science largely supported it. When Phrenology was in its early stage it was supposed to be opposed to all religious belief and supported materialism and fatalism views. Now that idea was soon dispelled as the study of the subject progressed, and now it was admitted to be the organology of the mind It was admitted that every small portion of the brain was divided into individual proclivities of the organ. On the examination of the head the character of the individual could be ascertained to a great extent, in the same way as it was discovered by Gall that prominent eyes was an indication of the power of language and the ability with which the party could retain what he had learned. Phrenology divided the brain into taree divisions—intellect, feeling or sentiment, and will. Gall divided the brain into two parts, viz.: intellectual power and propensities; but to that division Combe subdivided the latter into sentiment or emotion and propensities. The broadly laid-down principles of modern Phrenologists could not be made to agree with respect to the formation of the human brain with that of the lower animals, as the faculties were reversed. That the brain was the instrument of the mind there could not be a doubt, as was seen in every human being, and then psychological truth slipped in and helped to show that the brain was the medium by which the thoughts, feelings, and emotions of men were made known. The debate was continued by other members, and at the close, a vote of thanks was accorded to the chairman; it being the last meeting of the season."

Transmission of Color in Man.—In M. Victor Maignan's "Aux Antilles" (In the Antilles) are some interesting accounts of how color or complexion is affected by a crossing of the races. He says:

"The child of colored parents of different tints—such as a quadroon and mulatto, or mulatto and black—will be nearer the tint of the darker parent. If both parents are of the same color, the child will be a shade darker; and, singularly enough, the second child will be darker than the first, the third darker than the second, and so on to the last. In other words, a colored community left to itself is fatally destined to return to the original African black after a limited number of generations. Thus, while each new alliance with an individual of pure Caucasian blood brings the negro a step nearer to the white standard, the reverse is the case the moment the Caucasian element is withheld, as the color retrógrades from light to dark.

"A curious proof of this is found in observations made during some time in one of the islands. A mulatto woman had a female child by a white man; this young girl gave birth to a quadroon by a white father, and this recrossing with the white race was kept up for six generations. An identical process of recrossing had been simultaneously noticed in another plantation. The children resulting from the seventh crossing in both of these families were of remarkable physical beauty; they had blonde hair; their complexion was of such transparent fairness that they might have been taken for Albinos but for the vigor and gracefulness of their limbs and their brilliant intellect. The most experienced eye could not have detected in them the slightest indication of their African origin. They intermarried. Their children were dark-complexioned, and the children of their children are very dark mulattoes.

"This inexorable law of nature is given as one of the principal reasons why the Creoles refuse to intermarry with families who have the faintest tinge of negro blood in their veins, though their skin may be as fair as that of Europeans. The Creoles wish their posterity to remain what they themselves are—white."

How Much Rum is Drank.—The Moffett Liquor Register is teaching the people of Virginia some sober truths. The *Lexington Gazette* is startled by the revelation that in that place, with a population of less than 2,900, the liquor sold and taxed amounts to $25,979 a year, or more than double the

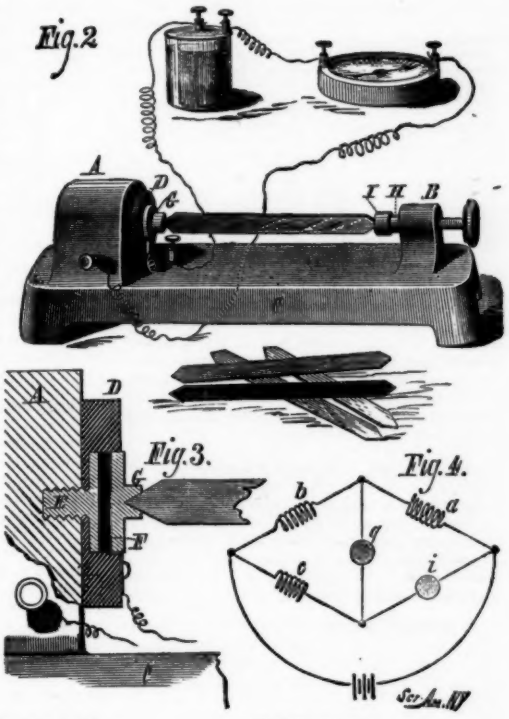
whole county levy for roads, schools and carrying on the county government. It sensibly adds: "If we can stop this drain upon our wealth, all other burdens will be but as a drop in the bucket."

The Tasimeter, another of Mr. Edison's inventions, is designed to indicate minute variations of temperature, and is the outcome of Mr. Edison's experiments with his carbon telephone. It consists of a rigid iron frame for holding a disk of carbon which is placed between two platinum surfaces—one fixed, the other movable—and in a device for holding the object to be tested (see Figs. 2, 3, 4), so that the pressure resulting from the expansion of the object acts upon the carbon.

In the illustrations it will be seen that two stout posts, A, B, project from the rigid base piece, C. A vulcanite disk, D, is secured to the post, A, by the platinum-headed screw, E—the head of which rests at the bottom of a circular cavity in the center of the disk. In this cavity, and in contact with the head of the screw, E, the carbon disk, F, is placed. Upon the outer face of the carbon is a disk of platinum foil, which is in electrical communication with the battery. A metallic holder, G, is placed in contact with the platinum disk to receive one end of the strip of whatever material may be employed to operate the instrument.

The post, B, is about four inches from the post, A, and contains a screw-acted follower, H, which carries a holder, I, between which and the holder, G, is placed a strip of any substance whose expansibility it is desired to exhibit. The post, A, is put in electrical communication with a galvanometer, and the galvanometer is connected with the battery. The strip of the substance to be tested is put unde a small initial pressure, which deflects the galvanometer needle a few degrees from the neutral point, and its position when at rest is noted. Thereafter the slightest subsequent expansion or contraction of the strip will be indicated by the movement of the galvanometer needle. A thin strip of hard rubber, placed in the instrument, is found to exhibit extreme sensitiveness to variations of temperature—it being expanded by heat from the hand when that is placed near the rubber—the expansion causing the galvanometer needle to move through several degrees. A strip of mica is also sensibly affected by the heat of the hand, and a strip of gelatin is instantly expanded by moisture from a dampened piece of paper, although held off two or three inches.

These indications are given by an ordinary galvanometer, arranged in connection with the tasimeter, as in Fig. 1. But for more delicate investigations it is connected with a Thomson's reflecting galvanometer, and the current is regulated by a Wheatstone's bridge and a rheostat, so that the resistance on both sides of the galvanometer is equal, and the light-pencil from the reflector falls on 0° of the scale. The principle is illustrated by the diagram, Fig. 4. Here the galvanometer is at *g*, and the instrument which is at *i* is adjusted, say, for example, to ten ohms resistance. At *a*, *b*, and *c* the resistance is the same. An increase or diminution of the pressure on the carbon button by an infinitesimal expansion or contraction of the substance under test is indicated on the scale of the galvanometer.



THE TASIMETER.

Among the uses to which the tasimeter may be employed, one of the more important

is in astronomical observations; its extreme delicacy even extending to a fifty-thousandth of a degree, Fahrenheit's scale, and being capable of measuring variations in the heat of star-spectra, as well as that of planetary radiation. Mr. Edison accompanied an astronomical party to Colorado, where observations were taken of the July eclipse of the sun, and the tasimeter was brought into use to ascertain the nature of the corona.

Narrow-gauge Railroads.—The *Railway Age* has compiled a table, giving the localities, names, and length of all the narrow-gauge railroads in the United States, to which is appended a summary here copied:

	Miles.		Miles.
Alabama	5.50	Nevada	119.75
Arkansas	73.00	Nebraska	96.00
California	210.05	New Jersey	63.17
Colorado	370.05	New York	56.29
Georgia	90.00	North Carolina	21.50
Illinois	214.50	Ohio	317.19
Indiana	63.86	Pennsylvania	265.43
Iowa	156 43	South Carolina	45.00
Kansas	84.00	Tennessee	36.41
Kentucky	23.50	Texas	164.50
Louisiana	5.50	Utah	186.75
Maine	15.00	Virginia	53.00
Massachusetts	34.16	Washington Ter.	53.50
Michigan	40.50	West Virginia	19.40
Minnesota	30.00	Wisconsin	75.50
Mississippi	81.00		
Missouri	81.35	Total in U.S.	3,082.24

Remarking upon the table, the *Age* says: "All of the roads named are three-feet gauge, except thirteen of three feet six inches, one of three feet four inches, one of two feet, and one of ten inches. The three-feet measure is, therefore, the established narrow gauge of the country; although it is not at all improbable that a still narrower gauge may come into use to some extent."

Antiseptic Chambers.—Mr. W. Thompson, F.R.S., of Manchester, England, proposes the construction of a room, or series of rooms, for surgical purposes, that shall contain only air that has been so thoroughly filtered through layers of cotton-wool as to be entirely free from germ-life. His experiments have satisfied him that such a plan is feasible.

A Model Barn.—This plan, which was put into practice by an intelligent farmer, appears to us to possess several features of value. He says: "With a farm of 174 acres, I had an old style barn, with barn floor in the center, stabling for thirteen head of cattle in stanchions. I put a fourteen feet addition to each end of this barn, and it now stands 40 x 78. Fourteen feet off for barn floor leaves two rows of stabling, each fifty feet long, which stables (in stanchions) seventeen head of cattle each, or thirty-four in all. The haymow is in the center of the barn, the stabling on each side, the cattle facing the mow, which is fourteen feet wide by fifty long, same length as the stabling. The other addition is a back stable 14 x 40; can be used for sheep, or partitioned off to suit your convenience. Above the stabling the barn is all free for storing hay or grain."

Through the liberality of a friend of intelligent agriculture, the trustees of the Massachusetts Agricultural College are able to offer a free scholarship (worth $300) to every worthy student who may apply for admission to the next Freshman class. The Entrance Examination in Arithmetic, Grammar, Geography, United States History, and Algebra to Quadratic Equations, will be held August 29th.

ASPIRATION---RETROSPECT.

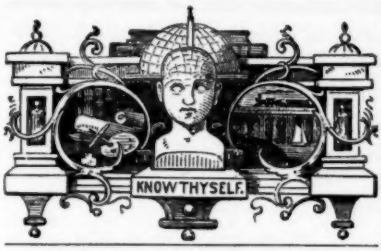
BOYHOOD.

An old farm-house, with meadows wide
And sweet with clover on each side;
A bright-eyed boy who looks from out
The door with woodbine wreathed about,
And wishes this one thought all day:
"Oh! if I could but fly away
From this dull spot the world to see,
How happy, happy, happy,
How happy I would be."

MANHOOD.

Amid the city's constant din,
A man who round the world has been,
Is thinking, thinking all day long:
"Oh! if I could only trace once more
The field-path to the farm-house door,
The old green meadows could I see,
How happy, happy, happy,
How happy I would be!"

Agriculture and National Decline.—History advises us that the broken-down nations began their decline at the moment when agriculture was abandoned to serviles and slaves. Previous to the commencement of Roman decay, the most exalted citizens were proud of the farmer's occupation as of the soldier's profession. A famous author tells us that "Ancus Martius recommended to the people, as next to religion in importance, the culture of the soil and the care of the flocks." The most illustrious names in Roman history are of men who had attained excellence in the art of raising particular cattle, or of cultivating particular plants—such as Lentulus, Piso, Cicero, Cincinnatus, Terrannus, etc. In the country, no distinction existed, and the titles of noble and plebeian, which prevailed in the city, were merged in the general name of laborer. In those ages of simplicity the Romans were all laborers, and the laborers were all soldiers. It is to this union that the fine sentiment of patriotism and virtue so frequently displayed in their history may be ascribed; because, as Cicero justly observed, a country life may be regarded as the school of simplicity, temperance, and justice. The simple and moral life produced by agricultural occupations continued until the introduction of luxury into the State—that bane of national and individual virtue.



Mrs. C. Fowler Wells, *Proprietor.*
H. S. Drayton, A.M., *Editor.* N. Sizer, *Associate.*

NEW YORK,
SEPTEMBER, 1878.

A CABINET COLLOQUY.—No. 7.

HOW HAMILTON REFUTED PHRENOLOGY.

(Concluded).

"NOW let me call your attention to Sir William's next compound of inference and assertion:"

'VI. *Phrenological Proposition.*—In ordinary cases the sinus only extends an obstacle over two organs (Size and Lower-Individuality), or, at most, partially affects a third (Locality).'

'*Counter Proposition.*—In very ordinary cases the sinus covers a greatly larger proportion of the supposed organs, and frequently affects more than a third part of the whole thirty-six.'

"The frontal sinuses," remarked our visitor, "have been mentioned to me by scientific friends as one of the chief stumbling-blocks to your doctrines. It seems that Hamilton was clever enough to avail himself of them in his effort to demolish Phrenology. Well, how do you meet him?"

"We think that you will agree in a few minutes with us, for we shall appeal to the bones directly. If you will excuse me for a moment I will bring some witnesses." Saying this, we went to a case, and selected two or three human skulls which had been sawn open horizontally, close to the eye sockets, and vertically through the center of the forehead, so as to show the character and extent of the sinuses. Placing these on the desk before our visitor, we continued—

"Here you at once perceive the structure of the frontal sinuses and their relation to the exterior surface of the cranium. These are all adult skulls; the frontal sutures are ossified, have quite disappeared, in fact. You can select by its exterior appearance that in which the sinuses are largest?"

"Certainly," said he, "this which shows the most super-obiter ridge."

"Now let us examine it interiorly. You at once perceive that the sinus on the right side is a trifle the larger. By applying our rule we find it one inch wide, and extending from the root of the nose upward half an inch. It also dips for three-quarters of an inch, showing a pointed fissure below the orbiter ridge, and immediately adjoining the inner angle of the orbit. Comparing the space covered by this sinus with our marked bust here, or, with what is better, this skull on which the intellectual organs are mapped, it is seen that the sinus may be thought to affect the determination of Form, Individuality, and Size. The Lower-Individuality of Gall is our Individuality. His Upper-Individuality is our Eventuality. Locality can scarcely be said to be affected, as the thin upper margin of the sinus but trends upon its border. Instead of a third part of the phrenological organs being affected by this rather large sinus, it extends over, at the most, a twelfth of those admitted by Spurzheim. To say that it affected a third, or twelve organs, would be to admit that it covered the whole intellectual space."

"How absurd! It seems to me that Hamilton could not have examined the structure of the sinus with care; yet it is almost incredible that a man of his reputation should not have made himself thor-

oughly conversant with the points of objection before going before the public."

"We agree with you, sir; but these are his own words in the attempted reprehension of the phrenological system, and when Spurzheim protested to the character of Hamilton's assertions, particularly their offensive insinuations against the moral and scientific standing of the phrenologists, the lofty professor of metaphysics threw back in the teeth of Spurzheim the latter's motto, *Res non verba quæso*, thus inviting comment which could not be favorable to the professor's cause, on the score of redundant and gratuitous talk, for Spurzheim in his letters is brief and to the point."

We then read the Seventh and Eighth Propositions and Counter Propositions to our visitor, and will not occupy space by their recitation here, for the reason that they are unwarranted by the early literature of Phrenology, and Dr. Spurzheim publicly denounced them as inventions on the part of Hamilton. Furthermore, they have no very important bearing on the essential data of the science. Next we proceeded to the—

'IX. *Phrenological Proposition.* — The whole brain (encephalon) does not in general attain its full complement of size till thirty, and in many individuals not till forty years of age.'

'*Counter Proposition.*—From the age of seven the cerebral mass gains little or nothing in volume; and the increase of the head about the time of puberty, and afterward, is determined by the greater development of the cranial bones, muscles, integuments, and hair.'

"Why, my friend, he refutes himself," exclaimed our visitor in open astonishment. "Nobody who knows anything of physiology will deny that the brain in a normal state grows until the man is thirty. The phrenologists were very safe in that opinion. Some authorities to-day claim that the brain may not attain its full development until fifty, but employment and organization have much to do with cerebral growth. I am quite satisfied with the statement as obtained from the phrenologists; it is clear that your Gall and Spurzheim were no superficial observers."

"The next proposition, sir, relates to the one just read to you.

'X. *Phrenological Proposition.* — The cerebellum only attains its full relative proportion to the *brain proper* from the age of eighteen to twenty-six.'

'*Counter Proposition.* — The cerebellum reaches this proportion many years before puberty, and even probably as early as three years old.'

"That is much of a piece with what you read last; the errors are with Hamilton. The cerebellum does not attain its maximum until twenty-five or later; in some cases not till the person is full forty years old."

"The next two," we resumed, deeming it quite unnecessary to discuss the point involved in the tenth proposition, as our visitor had given his vote for Spurzheim, are closely related:

'XI. *Phrenological Proposition.* — In male animals the cerebellum, proportionally even to their larger brain, is generally greater than the cerebellum of females of the same kind; and this difference is still more decided in men than in the other species of animals.'

'*Counter Proposition.* — The cerebellum of women (and the analogy holds true throughout nature) is, on an average, *in proportion* to their smaller heads, much larger than the cerebellum of men.'

"What! another evidence of ignorance on the part of the physiology of his time?"

"Yes, sir; for Hamilton but represented the learning of his Edinburgh library on these subjects. However, let us proceed with the—

'XII. *Phrenological Proposition.* — As the female cerebellum, even in proportion

to a lesser brain, is relatively smaller than the male, the ratio of its inferiority in size will be greatly increased if the two parts are compared directly with each other, according to their absolute proportions.'

'*Counter Proposition.*— Though on a smaller head, the cerebellum of women (and probably the same is true of other females, as compared with other males) is, on the average, *absolutely* larger than that of men.'

"Sir William is so confident in this last statement that he emphasizes it by the use of the adverb, and that italicised. May we ask your opinion with regard to this cerebellum business?"

"You have a copy of 'Gray's Anatomy' in your library, I suppose?"

"Yes, sir."

"Let us see what he has put on record in regard to it."

Referring to the author mentioned, we pointed to these statements: "The proportion between the cerebellum and cerebrum is in the male as 1 to 8¼, and in the female as 1 to 8¼" (page 600). "The average weight of the brain in the adult male is 49½ oz., or little more than 3 lbs. avoirdupois; that of the female, 44 oz." (page 580).

"A little calculation based upon these figures will give us their proportionate sizes." We then took a pencil and rapidly went through the simple process required, our visitor looking on.

"What do you find as the net result?" he asked.

"That the weight of the average female cerebellum is 5⅓ ounces, and that of the average male cerebellum is very nearly 5⅝ ounces."

"A difference of about half an ounce in absolute size on the side of the male. Enough. You said, I think, that there were fourteen of these propositions."

"Yes, sir, and we can dispose of them as promptly as we have those which we have examined. But I fear that I have already taken too much of your time."

"No. I wish to see the end of this wonderful attack by the champion of Scottish philosophy. Strange, that with such conspicuous evidences of its weakness, if not puerility, that it should be referred to to-day by intelligent men as a refutation of your system."

"The gentlemen, sir, who refer to Hamilton have in mind his eminence as a metaphysician, and have not in mind any views on Phrenology which have been formed through a personal examination of the science. In fact, they have borrowed a few stock expressions which are resolved into Pooh-pooh! and Pshaw! from individuals as ignorant or indifferent to the true nature of the subject as themselves."

"An eminent name has conduced to the perpetuity of many errors in modern science. Well, let us proceed—

'XIII. *Phrenological Proposition.*— In women, as more frequently actuated by a strong natural propensity to devotion, the organ of Theosophy, or Veneration, is in general more largely developed than in men.'

'*Counter Proposition.*—The manifestation can not be denied; but those dimensions of the head, which determine the size of the supposed organ of religious sentiment, are, proportionally, even to the smaller size of the female head, much less on the average in women than in men.'

"If you have observed the shape of heads much," we commented, "you have probably noted that women, as a class, have a more rounded and smoother outline in the superior region of the head. A man's head is generally better filled out here (showing the bust) at the location of Firmness, or here at the location of Benevolence, than at the intervening region of Veneration. We find in our personal examination, that to one man

whose head shows a good development of Veneration, there are at least three women who possess such a development."

"My own observation has not been special in this respect," remarked our guest, "but it has appeared to me that the heads of American men are inclined to be knobbish, that is, they run up to that point (indicating Firmness), and then fall off backward, while women have a greater elongation, or a level contour from the forehead to that place."

"I am willing, sir, to leave the determination of this question to you," we replied.

"It seems to me," he rejoined, "that the subject matter of these propositions is unimportant as compared with those which precede."

"We, however, deem it important, since Sir William introduced it among his indictments; and to us the fact of the larger average endowment of Veneration in woman is so notorious, that we are disposed to urge its consideration upon you. Here are two Indian skulls, male and female. See how much more rounded and full in the crown this of the squaw is; and the religious instincts of the aboriginal woman are known to be more conspicuously manifested than those of the brave. But not to detain you, we will consider the last or

'XIV. *Phrenological Proposition.*—As the "knowing faculties" are in full energy at a much earlier period than the "reflective," the lower region of the brow, along which the organs of the former are distributed, is found more largely developed in children than the superior parts of the forehead, in which are situated the organs of the latter.'

'*Counter Proposition.*—The manifestation is notorious; but the heads of children are peculiarly and remarkably distinguished from those of adults, by the greater development of the higher region of the brow, as compared with the smaller development of the lower.'

"Read the Hamiltonian part again, if you please," asked our guest. We did so.

"He convicts himself of superficial observation, or his authorities of sheer anatomical ignorance with reference to the growth of the immature or infant brain. Whether it be phrenological or not, the fact is that in the infant the anterior lobes are small and basilar in structure; for the finely-convoluted cortex which is found at the age of eight or ten does not exist then. Immediately subsequent to its birth the child evinces but the instinctive desire for nutrition, and for a few months the exhibition of intelligence is scanty. The child of a year shows a different contour of forehead from that of a week old, and is strikingly different mentally.

"That is just what was claimed by the early phrenologists, and as the perceptive organs are situated in the basilar parts of the anterior lobes, it can not be otherwise than natural that they should be first exhibited. As the shape of the lower part of his forehead approaches a decided outline the child's intellect becomes more definite in its apprehensions. I am very much obliged to you, sir, for giving me so much of your time this afternoon, and for your candor in considering the matters which I have brought to your attention."

"No thanks to me," replied our visitor, as he rose to depart; "rather, I feel indebted to you, for I have learned in the course of this interview several things of importance; and particularly has it been shown to me how a man of profound learning and good mental balance can be led into the commission of deliberate error by the earnestness of his zeal in defense of old opinions and practices."

EUROPE AT PEACE.

THE Congress of nations, which assembled in Berlin to consider the affairs of Turkey, and to adjust upon a solid basis the claims of Russia, adjourned on the 13th of July, its chief object, the preservation of the peace of Europe, accomplished. The long treaty which has been everywhere given to the public through the newspapers, we will not discuss, but simply comment that its outcome is some territorial aggrandizement to England and Austria, some maritime privileges and territory to Russia, the formation of a few independent and semi-independent States, among those principalities which were in almost constant disorder, on account of religious and political enmities; and neutrality in the navigation of the lower waters of the Danube. Turkey, although shorn of considerable territory and reduced in importance as a power, is given a "new lease of life." Her autonomy is unimpaired; her Asiatic policy and institutions will continue to throw their barbaric shadows upon the civilization of Europe.

We are told that the plenipotentiaries of Great Britain were received on their return from the Congress with great demonstrations of applause, and the results which had been obtained were made an occasion for rejoicings in which the people at large generally participated. These rejoicings indicate clearly enough that the masses were not so much bent on war a few weeks ago, as it was asserted by the press and by Parliamentary demagogues, and now that the governmental crisis is past and peace assured, there is a spontaneous outburst of mutual congratulation. Well may the English people rejoice, and well may Europe rejoice in the accomplishment of the Berlin Congress in so far as the preservation of peace is concerned.

But it seems to us that the statesmen who so calmly discussed the affairs of Russia and Turkey, lost an opportunity to place on record an amicable expression of personal if not of national opinion, to the effect that henceforth, when a serious disagreement should arise between nations, an effort should be made to adjust them, in an assembly of ministers appointed specially by those nations to whom the issues of such disagreement were important. One will say, perhaps, that the Berlin Congress in itself morally expresses a sentiment of this nature. Yes, but a definite provision recorded and attested by such men as met in the German Capital would have a practical effect in the policy of individual nations which moral suggestions or inferences would utterly fail to produce. When the great peoples of civilization formally and positively agree to submit their misunderstandings and difficulties to a court of arbitration then indeed will a step be taken which will introduce an era of prosperity and happiness, that period indeed in which nation shall no longer lift the sword against nation, and when the pruning-hook and the plow shall supersede the sabre and the cannon.

THE COURSE OF INSTRUCTION IN THE AMERICAN INSTITUTE OF PHRENOLOGY, which opens on the first day of October next, promises to be largely attended. Our readers who have perused the Institute Supplement connected with the July number, will have learned something of the scope of the topics taught, and the importance of such instruction to the community as a means of mental and moral progress. What object in life can compare with that of self-improvement, and what study equals in importance and dignity that which reveals human nature and the laws of the intellectual, moral, and social forces? As man is

the crowning glory of the Creator's works, and as mind and character constitute the crowning excellence of man, it is indisputable that the study of Mind is the chief of studies, and the knowledge thus gained the highest of all knowledge.

Our Mentorial Bureau.

"He that questioneth much shall learn much"—*Bacon.*

To Our Correspondents.

QUESTIONS OF "GENERAL INTEREST" ONLY *will be answered in this department. But one question at a time, and that clearly stated, must be propounded, if a correspondent shall expect us to give him the benefit of an early consideration.*

IF AN INQUIRY FAIL TO RECEIVE ATTENTION *within two months, the correspondent should repeat it; if not then published, the inquirer may conclude that an answer is withheld, for good reasons, by the editor.*

WE CANNOT UNDERTAKE TO RETURN UNAVAILABLE *contributions unless the necessary postage is provided by the writers.* IN ALL CASES, *persons who communicate with us through the post-office should, if they expect a reply, inclose the return postage, or what is better, a prepaid envelope, with their full address. Anonymous letters will not be considered.*

STUBBORN CHILD.—G. S. B.—A little boy organized as you describe, with large Destructiveness, Firmness, etc., combined, as is usually the case, with a strong motive temperament, should be judiciously disciplined. In correcting him you should be very careful how you exhibit temper yourself. You should be calm, very thorough in showing the nature of his fault and the necessity for correction. When the parent exhibits irritation, ill temper, he excites in the child feelings of a similar character, in opposition to his own, and the natural result is that the child is not benefited in the least, but rather injured. If the child have large Benevolence, you can influence him through it. The spirit of kindness is a very powerful instrument for regulating the insubordinate. Your boy may have other qualities which may be operated upon—large Friendship, for instance, or strong Approbativeness. It is always better to govern children who are excitable, given to fits of sullenness, discontent, opposition to their parents' will, through their affection or disposition to please. When the spirit of opposition is aroused in a child, it is disposed to do things which it would not do in its common mood. One with large Destructiveness and large Firmness would be likely to resort, when excited, to acts of a vengeful nature. Even grown people, thus constituted, are often found cruel and inhuman when their temper is aroused; whereas, free from excitement, they will show kindness, sympathy, even tenderness. A child, of course, can not be expected to indicate the thought and consideration of maturity, and so must be worked upon through the affectional, mirthful, and sympathetical nature more than through the intellect.

SODA-WATER.—H. P.—Soda-water is not essentially harmful if it be drank under proper conditions. As commonly taken, it is harmful. In hot summer-weather people rush while sweating profusely to the soda-water fountains, and hastily pour down large glasses of the ice-cold mixture. The effect of flooding the stomach with fluid ice-cold when a person is in a heated condition, can not be otherwise than injurious. Many drink soda-water, simply because they like it, and at times when their system has no need of fluid. We think that many a good stomach is ruined by such drinking. Aside from the mere matter of drinking soda-water, there is the fact that many of the flavorings, fruit juices, so called, are chemical preparations having poisonous qualities.

BATHING.—The frequency of bathing, by which we mean the ablution of the entire body, must depend upon the constitution. Some persons are refreshed and invigorated by an every-day bath, and others would be weakened by such practice. For one in average health, we think that a pretty thorough towel-bath three times a week, or on alternate days, is sufficient. Water at sixty-five degrees is cold enough. To immerse the hands deeply in water and to bathe the neck with it, helps one to cool off quickly.

ORGANS AND MANIFESTATION—CALCULATION.—Here and there persons are found who have a mental organ largely indicated, so far as place in the brain is concerned, but which is not manifested in their life. We have known some with large Combativeness so related in business and social affairs that the disposition to irritation and contest was very rarely indicated, and they passed for quiet, gentle, unobtrusive

persons. Lack of exercise induced a passive condition in the organ. Usually an intellectual organ, when large, manifests itself in some way; yet an intellectual organ may be isolated and may lack opportunity of excitation. As to your question in regard to Calculation, we would say that we scarcely understand how the faculty, if its organ be large, has not shown itself, and we are of opinion that its external indication is due to the structure of the skull rather than to its actual development in the brain.

UNIFORMITARIAN.—M. A. W.—The term uniformitarian is applied to a class of thinkers or scientists who regard the world of nature as having reached its present condition gradually, and that the same causes or influences are at work now that have been hitherto in producing changes in the form of the earth. This class stands in opposition to the catastrophists, who believe that there have been a series of abrupt changes or revolutions in the structure of the earth's crust, and that new orders have suddenly sprung up upon the ruins of old orders of life.

DURHAM, ILLINOIS, AND OTHERS.—It would be well for our friends who communicate with us by letter to read the paragraphs in italics at the head of this department. It would save them some annoyance and perhaps exasperation. A great many letters containing inquiries of a personal nature are received by us which we would answer considerately, were it not that no return postage has been inclosed. If an answer to a question of personal interest be not worth a three-cent postage stamp, which is all we expect from a correspondent—being willing to furnish the time, paper, and ink essential to its preparation—the inquiry certainly is not worth as much, and one might save his time and perhaps his temper by not writing.

HOW TO PREPARE WHEAT FOR THE TABLE.—The article in the August number on "The Roman Soldier and his Food" has brought several inquiries with reference to the method of cooking wheat. As a general answer we must refer to our little "Hygeian Home Cook-Book," which contains a large number of recipes relating to the preparation of the different farinacea for the table, and also the dressing of vegetables, fruit, etc. We have a larger work entitled the "Hydropathic Cook-Book," in which the philosophy of food is discussed at considerable length. But the small manual will be found sufficient for ordinary purposes, and bound up with it are numerous advertisements which furnish information as to where flour, meal, and grains of good quality may be procured. Price only 25 cents.

LARGE HOPE.—Large Hope is a very desirable thing to have; but lest its florid promises prove too much of an incentive and lead one to rashness and a disregard of consequences, there should be counteracting influences, such as Caution and a fair intellect. Consider the consequences of all undertakings; do not jump at proposals or appearances. A good examiner lays down a course of action suited to the development of the subject. Your large Hope may mislead you in the matter of your own capabilities. Carefully examine yourself; endeavor to do your best, and you may exceed the average of your capacity as declared by the examiner.

The reflective intellect matures at different times in different persons. It is usually more active after the age of twenty years. The organs of the intellect may continue to grow until one has reached fifty. Some authors make forty-five the climacteric period of mental energy.

LEAD-PENCIL POISONING.—Graphite, the substance used in the manufacture of pencil leads, being simply carburet of iron, is not reckoned among poisons. Of course, we would not advise you to swallow an ounce of the substance, as it would not help your digestion. It would be a good deal like swallowing an ounce of common earth.

What They Say.

Communications are invited on any topic of interest; the writer's personal views being preferred.

PROCRASTINATION.—Of all the many evils with which we are surrounded there is none that I regard with such fear, such utter loathing, as the sinful habit of procrastination. This habit of delaying if indulged in will grow into our very nature, and will gradually become the greatest tyrant with which we have to contend; yea, it will even rule us as with a "rod of iron." If once allowed to enter the family circle, it will surely work rapid destruction. The occasional little delays, though the effects may at first be imperceptible, will break up the loving confidence they once had in each other; it will snap asunder the sacred ties of home-life, and thus destroying the harmony that is necessary to the peace and happiness of the family, will eventually scatter them to a cold and unsympathetic world. How it makes me shudder when I think of the misery and unhappiness that I alone have witnessed, caused by this fearful tyrant Procrastination. A little putting off to some future time, some more convenient season, how often has it made the silent tear to flow, and the heart to ache with unutterable anguish. How much sorrow and wretchedness, ruin and disaster, might have been averted, were it not for this dangerous

habit! We can not live to or for ourselves alone; the most minute action of our lives must have its effect, first, upon ourselves, and, as an inevitable consequence, upon the world with whom we associate. Little acts and thoughts all go together to build up the character; then how important that we guard well the time and talents entrusted to our care, and that we should endeavor to overcome this injurious habit of procrastinating, since little delays may work great evil. There are some persons on whom this habit can have hardly any effect. The strong mind and quick determination overpower it, but with the great mass of human nature it has a powerful influence, which in many cases is as deadly in the end as that of the wine-cup.

TABBIE BENNISH.

THE MAGIC WAND—HOW IT WORKS.—Our answer to a correspondent on this topic in the June number has brought us the following communication:

SMYRNA, N. Y., *June* 25, 1878.

Editor of the PHRENOLOGICAL:—Noticing the reply to H. W. S. in the May number, and having had some experience with the magic wand, I offer a few remarks which may interest, if not enlighten, the inquirer. A man of much practice, whom I formerly knew, preferred a currant branch; but I do not find much difference in using different kinds of timber—any of our common woods will do. Select a branch that divides into two equal twigs and cut it two or three inches below the fork, where it should be about the size of your finger. Point the large end and trim the twigs, then hold your hands before you with the palms up, and grasp a twig in each hand, in such a way as to have the thumbs toward the tops, pressing it firmly against the balls of the thumbs and holding the point a little elevated before you. Then if you stand directly over a subterranean vein of water (such as supply our never-failing springs and wells), you may notice no effect; but move a little forward and the point of the stick may turn over toward your face; or if you move backward, it may drop toward the ground. By observing the angle at which it stops, you may judge of the depth of the vein. The influence can frequently be felt for twenty or thirty feet, or even farther, on each side of the vein; and when holding the twigs very firmly, I have had the timber twist so as to loosen the bark on a green stick, and it would move gradually to its position in spite of all efforts to restrain it; but in the hands of some persons (perhaps the majority) it will not move at all.

I have attributed the action to a force of the nature of an electric attraction. I do not think it is owing to any mental action, for it seems to be independent of thought and feeling, only requiring a proper position of the individual, and an observer can note the result. Whatever it may be, it is evidently one of the unseen forces of nature with which we are surrounded, and because unseen, many are skeptics in regard to the facts and the utility of them; but a little practical experience or observation with an expert will convince any candid person of the actual and reliable nature of the movements.

J. P. KNOWLES.

FACIAL SIGN.—An Illinois correspondent has been taking notes of character as exhibited among his associates, and finds what he deems a new physiognomical expression. He says that "those who look ahead, count the cost, try to avoid mistakes and unwise decisions, have lines or folds running from a little below the middle of the nose toward the outer angle of the mouth, and the more extensive and perpendicular these lines or folds, the more the person looks ahead. A face which is smooth from the lower part of the nose outward toward the ear is lacking in business acumen and foresight, and not original in planning and invention."

We think that in "New Physiognomy" our friend will find some remarks akin to this subject. Something is said there about lines perpendicular and otherwise neighboring the extremity of the mouth indicating character. Deep lines nearly perpendicular, running upward toward the nose, are described as marking a man who is quiet, self-possessed, deliberate in thought, careful and economical in the management of his affairs.

REMINISCENCES OF A PHRENOLOGIST.—After a year's study of the science of Phrenology, during which time we had received instruction from the lectures of Mr. Samuel Kirkham, the author of a Grammar, and an assistant of Mr. O. S. Fowler in the publication of a work on Phrenology, we commenced giving public lectures in December, 1838. We entered the phrenological field because we had received benefit from a science which taught the true principles of mental philosophy, and also from a desire to do something for the amelioration of the condition of the human race. Born with a hereditary taint of melancholy, which at times poisoned our existence, we found by the aid of Phrenology the cause of this destroyer of human happiness, and took means to escape from the doom incident to that worst of human ills—a disordered manifestation of mind!

There was decided opposition to Phrenology by many religious teachers at the time, but its opponents were not such inveterate haters of it as the friends of Slavery were of the Abolitionists. In the winter of 1839, when arranging for a course of lectures in Bucks County, Pa., we went to a member of the school committee, who had charge of the room where lectures on differ-

ent subjects were frequently held, and solicited permission to use the room to give a lecture on Phrenology. He listened to our request and then asked, "Is Phrenology another name for Abolitionism?" We gave him assurance that it was not, and he cheerfully granted our request. We gave our lecture, and no demonstration of opposition was manifested toward a science which had for its object the welfare of mankind.

In the spring of 1840 we gave a course of lectures in a town in Pike County, Pa., and by invitation visited the office of a noted physician, who had a collection of human skulls and prepared skeletons. A number of the citizens of the place were present to hear what the phrenologist would say of the men who once were the owners of the skulls in question. Among the skulls presented for examination was one that we described as indicating superior mental ability, sound practical judgment with a special gift for arithmetic, and a capacity to excel as a surveyor. When we had got to this point in the examination, the physician whispered in our ear, requesting us to suspend our delineation of the character. And he afterward told us the reason of his request, which was that the skull examined was one which he had procured a few years before, and it represented a man who was in life a noted surveyor, whom some of the men present knew, and who he feared would be inclined, from our remarks, to find an accusation against him of robbing a grave. This gentleman also showed us the skeleton of a young woman who had died of consumption, whose ribs were lapped an inch upon the breast bone, the result of tight lacing.

P. S. BUELL.

PERSONAL.

MR. JOSEPH HEWITT, of Oppenheim, Fulton County, New York, was born in that town, and is now over eighty years of age. He is the father of nine children, seven grandchildren, and two great-grandchildren. One reason asserted for this remarkable longevity is their almost total abstinence from the use of drug medicine. There has been no death in the family since 1815.

MADAME LITVINOW, a Russian lady, has lately received the degree of Doctor of Philosophy from the Philosophical Faculty of the University of Berne. Her examination was of such excellence that the faculty agreed to attach the highest mark to her diploma.

PROFESSOR SIMON NEWCOMB, of Washington, has received the Huygens Medal of the Society of Science, at Haarlem, Holland, an honor which is awarded once in twenty years to the astronomer who has during that time contributed the most to science by his discoveries and investigations.

MR. J. R. DODGE, the Statistician of the Agricultural Department, Washington, has resigned, and in his letter of withdrawal enters a "protest against the incompetency and recklessness" of his superiors. Mr. Dodge has been a most excellent officer, and, as the *Tribune* says, has been regarded generally by the agricultural press, and by all familiar with Washington matters, as about all there was of the Agricultural Department.

MR. JAMES ACKLAND, of the class of 1876, has succeeded Miss Chapman as Phrenologist and Examiner, in Boston, Mass. He has issued a circular in verse, in which occurs this:

"Whoe'er thou art, 'tis wise to scan
The ways, the heights, the depths of man,
The grandest book in scope and plan
On nature's shelf,
(Through modesty you ne'er began)
'Tis your own self.

"Where Spurzheim, 'priest of nature,' died,
In town of intellectual pride,
I launch my boat, and should the tide
Auspicious flow,
'Twill only be when you've replied,
'I'll go, I'll go.'"

We wish him success.

MIRTH.

"A little nonsense now and then
Is relished by the wisest men."

AN orator declaring that fortune knocked at every man's door once, an old Irishman said, "When she knocked at mine I must have been out."

A PLACARD in the window of a patent-medicine man in Paris reads as follows: "The public are requested not to mistake this shop for that of another quack just opposite."

"How nicely the corn pops," said a man who was sitting with his sweetheart before the fire. "Yes," she responded, "it's got over being green."

"WHAT is your business, sir?" asked the Court, in a sharp voice. "A conchologist." "What's that?" said the judge. "I opens clams."

YOUNG lady on horseback (doubtful about the road)—"Will there be a bridge by and by across a little brook?"

Small rustic—"Wall, I dunno' 'bout by 'n by, but there's one there now."

A COLORED cook expecting company of her kind, was at a loss how to entertain her friends. Her mistress said: "Chloe, you must make an apology." "La! missus, how can I make it? I got no apples, no eggs, no butter, no nuffin' to make it wid."

Library.

In this department we give short reviews of such NEW BOOKS *as publishers see fit to send us. In these reviews we seek to treat author and publisher satisfactorily and justly, and also to furnish our readers with such information as shall enable them to form an opinion of the desirability of any particular volume for personal use. It is our wish to notice the better class of books issuing from the press, and we invite publishers to favor us with their recent publications, especially those related in any way to mental and physiological science. We can usually supply any of those noticed.*

HOW TO TAKE CARE OF OUR EYES, with Advice to Parents and Teachers in Regard to the Management of the Eyes of Children. By Henry C. Angell, M.D., Professor of Ophthalmology, in Boston University, author of "A Treatise on Diseases of the Eye," etc. 16mo, cloth. Price 50 cts. Boston: Roberts Bros.

We do not know the value of our eyes until they become impaired and unable to perform the duty which we expect of them. People at large are much too careless with regard to their eyesight, and the need of a little manual like the above is manifest. Dr. Angell considers, in a brief, clear style, adapted to the average intelligence of the lay public, the structure of the eye and its prevalent weaknesses and affections in young and old. He gives practical hints with regard to the use of spectacles and the care of weak eyes. His advice on the treatment of children who are troubled with defective sight is exceedingly valuable.

HOW TO BE PLUMP, or the Science of Physiological Feeding. By T. C. Duncan, M.D., editor of *The United States Medical Investigator*. Chicago: Duncan & Bros.

The author of this pamphlet appears to consider leanness as a disease, and would have every man and woman indicate less of bony structure in face and form. The prime factor in the author's method appears to be water, a moderate quantity of which is to be taken four times a day. His judgment is sound in respect to forbidding cold water to be drunk at meals. We regret to say that "he has no serious objection to tea or coffee if they are well milked." Some of his homeopathic brethren will scarcely sustain his view of the propriety of taking these beverages, whether "well milked" or not.

TWENTY-FIVE-CENT DINNERS for Families of Six. By Juliet Corson, Superintendent of the New York Cooking School, author of a cooking manual, "Foods, their Sauce," etc. Price 15 cts.

Quite recently Miss Corson published a little tract on cookery, entitled "Fifteen-cent Dinners," the motive being to show working people, whose wages are small, how to prepare a good dinner for fifteen cents. This new compilation is an advance upon that, not only in respect to the expensiveness of one's dinner, but in respect to variety and quality of dishes. Believing that the cheapest sorts of food are often the most wholesome and strengthening, the author furnishes some practical directions for its selection in the market. We notice that she urges some sound principles on the use of tea and coffee and beer, but might have been a little stronger in her discussion. We notice also the introduction of more hygienic philosophy in this collection of receipts than in her former ones, yet the amount of seasoning and shortening recommended for some of the common dishes is considerable.

PUBLICATIONS RECEIVED.

THIRTEENTH ANNUAL REPORT of the National Temperance Society and Publication House. Presented at New York, May 7, 1878. A very full and encouraging statement of the work done by this most excellent Association. The past year has been one of extraordinary interest in the cause of Temperance Reform, notwithstanding the stagnation in the book business and the great efforts of the friends of rum. There have been stereotyped and published under the auspices of the Society sixty-seven new publications, making a total of 581 since the formation of the Society. It is fitting to state that the character of the literature recently published by the Society has been particularly good, indicating a marked advance upon the quality of previous years.

THE VOW OF THE REchabites, and Reasons for Abstaining. By the Rev. Canon Farrar, D.D., F.R.S. Price 10 cents. Published by the National Temperance Society of New York. This essay has special reference to the International Sunday-school Lesson for April 28, 1878.

TWENTY TRACTS ON TEMPERANCE. By Miss Julia Colman. Price 18 cents by mail. A valuable series of tracts for general circulation. She treats the subject in a simple, fresh, and scientific manner. Published by Nelson & Phillips, New York.

THE PAMPHLET MISSION FOR FREEDOM, Fellowship, and Character in Religion. Publishing Committee: Robert Collyer, of Chicago; C. W. Wendte, Cincinnati, and others. The subscription price, $1.50. Publication Office, Chicago. An excellent biography and critique of Voltaire occupies the body of this number.

THE LAW OF POPULATION, its Consequences and its Bearing upon Human Condition and Morals. By Anna Besant. 12mo, pp. 47. New York: Asa K. Butts. This work exhibits a great deal of careful research and hygienic discrimination. The author appreciates the principles of prevention, and would have the laws of sanitary integrity, as enunciated by high scientific authority, applied to the relief of society from the vast weight and destructive bearing of vice, crime, pauperism, and abuses.